The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 712.—Vol. XIX.] LONDON, SATURDAY, APRIL 14, 1849. [Price 6d.

TO BE PEREMPTORILY SOLD, BY PUBLIC AUCTION, on Wednesday, the 18th day of April, 1849, at Four o'clock in the afternoon, by Mr. ROBERT COAD, at WEBB'S HOTEL, in the Borough of LISKEARD, ONE 256th SHARE in PAR CONSOLS MINE, situate in the parish of St. Blazey, Cornwall. The dividends received on this share during the 12 months preceding January last, amounted to £75, and there is every probability of a continuation of the same returns.

Further information will be readily afforded by Mr. Simon Peter, solicitor, Liskeard.

Dated April 9, 1849. 1

(DAY OF SALE POSTPONED.)

EXTENSIVE IRON-WORKS FOR SALE.—NEW FIELD OF BLACK-BAND IRON-STONE.—UPSET PRICE REDUCED.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 25th day of April current (*instead of the 11th, as formerly advertised*)—at One o'clock afternoon (if not previously disposed of by private bargain), 2

THE BLAIR IRON-WORKS,

belonging to the Ayrshire Iron Company, situated in the parish of Dairy and county of Ayr.—These works, which have been recently erected at an immense cost, consist of

TWO BLOWING ENGINES, FIVE BLAST-FURNACES, WORKMEN'S HOUSES, STEAM-ENGINES for working the minerals, together with UTENSILS at the pits, furnaces, &c., all in working order, and capable of producing upwards of 35,000 tons of pig-iron per annum.

One of the blowing engines, high-pressure, estimated at 90-horse power, was erected in 1841—the other, a condensing engine, was erected in 1847, and is estimated at 200-horse power, the latter being capable of blowing five furnaces, and both fitted up in the most substantial manner, and at present in good working condition.

The furnaces have been erected with the greatest care, and are fitted with air-heating apparatus of the most approved construction. The make of each furnace has generally averaged upwards of 150 tons of iron per week, and some of them have produced 160.—There are, besides the manager's house and store buildings, 187 workmen's houses, in a habitable state, attached to the furnaces and pits, and there are 20 partly built, which could be finished at a small additional outlay. There are also a new foundry, wright's shop, fire-brick work, smithy, &c.

The MINERAL FIELDS consist of COAL, IRONSTONE, LIMESTONE, and FIRE-CLAY, held in lease by the company at moderate fixed rents and royalties, all situated within easy distances of the furnaces, and for the most part have the advantage of railway communication.

The COAL FIELDS consist of several hundred acres, of which only a small portion has been wrought; several pits, fitted with good engines and machinery, are sunk to the coal, and partly in operation.

The IRONSTONE consists of the well-known BLACK-BAND, yielding about 3000 tons of calcined stone per acre, and it has been estimated that there are 300 acres, or thereby, still to work, *besides* about 200 acres, which, from borings just completed, it is ascertained also exists, as well as in adjoining lands, the minerals in which are still undisposed of. There is also a large extent of CLAY-BAND IRONSTONE, hitherto little wrought, but capable of yielding a large output. There are 15 pits, with excellent steam-engines, some of them in present operation, and others ready to resume working.

The LIMESTONE QUARRY is worked by open cast, and is connected with the works by railway.

The FIRE-CLAY is abundant, of excellent quality, and cheaply produced.

There is a large stock of ironstone on the ground, which can be got at a valuation, so that the works can be put into immediate operation, and having a connection with the Glasgow and Ayr and Ardrossan Railways, along which the produce has the privilege of conveyance at low rates, the present affords an excellent opportunity for parties entering into the iron trade. MALLEABLE IRON-WORKS.

Considerable progress has been made in the erection of extensive malleable works, immediately adjoining the pig-iron works, which will be sold either together therewith or separately.

Further particulars will be given on application to W. D. Starling, Esq., 13, Change-alley, Birchin lane, London; or to Mr. Brown, 35, or to Mr. Watson, 32, St. Vincent-place, Glasgow.

N.B.—The purchaser of these works has an opportunity of at the same time acquiring the mansion-house and lands of Pitcon, immediately adjoining.

Glasgow, April 4, 1849.

(DAY OF SALE POSTPONED.)

VALUABLE ESTATE AND MINERAL FIELD IN AYRSHIRE FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Queen-street, Glasgow, upon Wednesday, the 25th day of April current—(*instead of the 11th day of April, as formerly advertised*)—at One o'clock afternoon, unless previously disposed of by private bargain, all and whole the 3

LANDS AND ESTATE OF PITCON,

Extending to about 216 acres, imperial measure, as more particularly described in former advertisements; together with the MANSION-HOUSE, and OFFICES and GARDEN thereto belonging; and the whole MINERALS and METALS in the said Lands, excepting these 8 acres, or thereby, Scotch measure, now belonging to the Glengarnock Iron Company, of their presently-working seam of Ironstone in the said Lands; and also excepting the Pitcon Railway and Branches, in so far as the same are within, and pass through, the said lands.

The MANSION-HOUSE is in good order and repair, and has attached to it a set of suitable and commodious offices, with walled garden, shubbery, and pleasure ground; and the whole are well enclosed.

The LANDS, let under lease, extend to about 140 acres Scotch or thereby, and are at present held by a respectable tenant, at a surface rent of 490*l.* sterling per annum. The farm steading is in good order and repair.

The MINERALS, comprising the most valuable description of ironstone, extend to about 140 acres still unwrought, and are held upon lease by the Ayrshire Iron Company. Upon a moderate calculation, the black-band yields about 3000 tons calcined ironstone to the imperial acre. There are, besides, several seams of Coal and other Minerals in the Lands.

This estate is situated near to the village of DALRY, at which there is a station upon the line of the Glasgow, Paisley, and Ayr Railway, and in the immediate neighbourhood of the Ayrshire Iron Company's Works, with which it is connected by railway communication, and will, in consequence, form a most desirable and profitable investment to the purchaser of the Ayrshire Iron Company's works (the Blair Iron Works), which, along with the benefit of the mineral lease of Pitcon, are advertised to be sold, by public roup, at the same time and place with this estate.

The public and parish burdens payable from the estate are small.

For further particulars, application may be made to M'Clelland and M'Kenzie, accountants, 128 Ingram-street, Glasgow.; Robert M'Cowan, accountant, 17 Gordon-street, there; Knox and Findlay, writers, 29, St. Vincent-place, there; James M'Cosh, writer, in Dalry; or to Douglas and Ranken, writers, 81, St. George's-place, Glasgow, in whose hands the articles of roup and title deeds, and a plan of the estate and mineral workings, may be seen.—Mr. M'Cosh will give directions for the lands being pointed out, and the mansion-house, offices, and garden, being shown to inquirers. BOGLE & CO., Auctioneers.

Glasgow, April 4, 1849.

CORNWALL.—TYWARNHAILE MINES.

IMPORTANT AND VALUABLE COPPER MINES TO BE LET, BY PRIVATE CONTRACT, comprising the extensive SETTS formerly known as 4

UNITED HILLS, WHEAL CHARLES, and
SOUTH TOWAN, WHEAL FANCY,

belonging to the Duchy of Cornwall, in the parish of SAINT AGNES.—These mines having been surrendered to the Duchy by the late lessees, during the extreme pressure of the latter part of the year 1847, have since been placed in good working order, and are yielding large and increasing returns. They are now to be leased, at a moderate rate of dues, for a term of 21 years.

An arrangement can be made for putting the lessees of the Tywarnhaile Mines in possession of the adjoining setts of Wheal Sparrow, West Wheal Sparrow, Basset's United Hills, Wheal Clarence, and Wheal Lydia, the property of the representatives of the late John Basset, Esq.

Proposals will be received at the Duchy of Cornwall Office, Somerset House; and any further information may be obtained by application there, or to R. Taylor, Esq., Falmouth.

Duchy of Cornwall, Somerset House, Feb. 20, 1849.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT, 5

No. 54, THREADNEEDLE-STREET, LONDON,

Has to DISPOSE OF several valuable PATENT RIGHTS, some of which have been profitably worked.

A FREESTONE QUARRY, in North Wales, from which, on account of its quality, the small cost of getting and working it, and its proximity to the sea, London may be supplied at lower prices than those now ruling for much inferior stone, and a large profit left to the proprietor.

An IRONSTONE MINE, likewise in North Wales, worked open cast, close to a shipping port, and now in profitable work.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

J. BOYDELL has also at his DISPOSAL a RESIDENCE and LANDED PROPERTY in SHROPSHIRE, which is in a good neighbourhood, and which (a large portion of the land adjoining the house being of a most picturesque character, and well timbered, with a streamlet running through it) might be made a country residence for any nobleman or gentleman, such as but few in the kingdom would bear comparison with.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO RAILWAY COMPANIES, ENGINEERS, AND OTHERS.—FOR SALE, a NEWLY REGISTERED MACHINE for MAKING TRENAILS, KEYS, &c., for RAILWAYS. Its pressure is equal to 51-horse power—only requires 1-horse power to drive it, and attended by a boy only—will produce at the rate of upwards of 3000 trenails per day with ease. When applied to the formation of keys, 3000 per day can also be turned out with facility and success. Another description of machine, for the same purpose, not yet registered, of equal power, is also for sale, as likewise one excellent upright drill for boring wood or iron, two capital lathes, with proper tools, complete, 10 circular saws, of various sizes, with shafting, all in excellent condition.

For particulars apply (if by letter, prepaid) to Mr. J. Harrison, Lumb Mill, Cowling, Keighley, Leeds, who will give every information on a personal interview. 6

RIDER'S RAILWAY BRIDGE.—This BRIDGE, BUILT wholly of IRON, will be ERECTED by the PATENTEE on the following terms:—

A BRIDGE, of 150 span, for a double track railway, broad gauge—Price £2000.
A BRIDGE, of 100 feet span, same dimensions—Price £1000.
These prices are exclusive of abutments or piers.
ROADWAY BRIDGES at a reduction on cost of from one-half to two-thirds.

Apply to Mr. S. MOULTON, Patentee, Bradford, Wilts, or to Mr. Howard Jacobson, Suffolk-lane, Thames-street, London. 7

CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half-past Eleven to Three o'clock, at Ingram's Manufactory, 29, CITY-ROAD, near Finsbury-square.

The following is an estimate of the daily expense of working a double line of 50 miles long, during a period of 10 hours, with trains starting from each terminus every half hour—six trains always running on the line:—

Coals for five stationary engines, of 100-horse power each, at 5 lbs. per horse-power per hour each (say, 11 tons, at 14s. per ton)				£7 14 0	
Wages—Enginemen, with relief, 10 at 6s.			£3 0 0		
,, Stokers	ditto	10 at 4s.	2 0 0		
,, Cleaners	ditto	10 at 2s. 6d.	1 5 0		
,, Drivers	ditto	12 at 5s.	3 0 0		
,, Guards	ditto	12 at 5s.	3 0 0		
,, Twenty men stationed on the line, 3s.			3 0 0	=15 5 0	
Repairs of engines, with depreciation, &c., at £300 per annum, each ×5=1000*l.* per annum—daily proportion				2 15 0	
Contingencies				4 6 0	
Total				£30 0 0	

Forty trains, at 15s. per train=£30, being a fraction over 3½d. per train per mile, independent of a saving of one-third of the present expense in the maintenance of way. 8

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam and other purposes. All sorts of IRON GAS FITTINGS.

Works—Smethwick, near Birmingham.
London Warehouse—No. 6, Upper Thames-street. 9

THE STEAM-ENGINE—W. BROTHERTON & CO. beg to CALL the ATTENTION of ALL PARTIES EMPLOYING STEAM-POWER to their PATENT PURIFIED OIL for the ECONOMICAL WORKING of the STEAM-ENGINE and other MACHINERY.

The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general. A trial will prove the fact.

W. BROTHERTON & CO., 10

PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON.

ECONOMICAL STEAM-ENGINE—Surpassing the Cornish. CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE AND CONDENSING ENGINE,

Alike ADAPTED FOR MARINE, LOCOMOTIVE, AND STATIONARY PURPOSES.

BOILER.—Tubular, free from deposit, and perfectly safe from explosion.
ENGINE.—Not half the weight or bulk of ordinary engines.
FUEL.—Not half that required by the best engines of the common kind.
WATER.—Under one gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation. 11

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to condense either by air or water.
ONE 25-horse power ditto ditto ditto
TWO 20-horse power ditto ditto ditto
ONE 14-horse power ditto ditto ditto
A PAIR of OSCILLATING MARINE ENGINES, of 10-horse power.
PRICE.—£20 per horse-power.

These engines are quite new, with boiler, condenser, and regulating damper—all got up in the best and simplest manner. They are much simpler, and almost beyond comparison more compact than the Cornish engine, also more safe and economical than even those engines, yet the price of the Cornish is nearly double that at which these are offered.—Parties wanting engines will find in the above good bargains.

Apply to Thomas Craddock and Co., engineers, 36 and 38, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse HIGH-PRESSURE ENGINES, simply arranged, and well got up.—Price £12 per horse-power.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS, whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith. 12

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 13

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—Malta—On the 20th and 29th of every month. Constantinople—On the 29th of the month. Alexandria—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages and ship cargo, apply at the company's offices, No. 122, Leadenhall-street, London; and 57, High-street, Southampton.

OVERLAND GOODS AND PARCELS FOR INDIA, ADEN, CEYLON, MADRAS, CALCUTTA, SINGAPORE, CHINA, and BOMBAY, should be DELIVERED not later than noon on the 17th of each month; and if forwarded on the 16th, will be subject to an extra charge.

When the 18th falls on a Sunday, no package will be received after the 17th, and cases must not exceed 70 lbs. in weight, and when measuring over one cubic foot, they must be strong, and well hooped at the ends.

Peninsular and Oriental Steam Navigation Company's Offices,
122, Leadenhall-street, London, Feb. 23, 1849. 14

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 310, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen. 15

Application personally, or by letter to F. W. Campin and Co., No. 310, Strand (corner of Essex-street).

FOR SALE, a SECOND-HAND 60-horse HIGH-PRESSURE PUMPING-ENGINE, 30-inch cylinder, 7-feet stroke, with two large boilers, in excellent condition. Also, a 10-horse ATMOSPHERIC DRAWING-ENGINE, with boiler, cog-wheels, and drum—the cylinder constructed so as to be easily altered into a 20-horse condensing. Also, a LOT of 15-inch PUMPS.

Apply to Mr. William Clark, Holmes Colliery, Rotherham, Yorkshire. 16

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a 63-inch cylinder PUMPING ENGINE, on the Cornish principle, without boilers—9-feet 6-inch stroke in cylinder, and 7-feet 6-inch in shaft, with bright working gear, &c.—For farther particulars, and to treat for the same, apply to Mr. Wm. Gregor, Raven-hill, Swansea.—March 19, 1849. 17

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.
Price—£12 to £16; with boiler, £22 per horse. 18

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.; Great Devon Consols, Condurrow, East Wheal Rose, Wheal Seton, South Wheal Frances, Treviskey, Trethellan, Mary Anne, Trelawny, Tamar, Tincroft, St. John del Rey, Stray Park, and Bedford Mines. 19

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities. 20

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedently low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking of daring unusual advantages, situated in one of the best mining districts in Cornwall. Full particulars will be furnished on application. 21

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES. 3, *GEORGE-YARD, LOMBARD-STREET, LONDON.* 22

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

MR. GEORGE BATE, Jun., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.*

Offices in Queen-street, corner of Piper's-row.
N.B.—UNDERGROUND MINING SURVEYS accurately executed. 23

MR. RYE is a SELLER of TWO SHARES in WEST SETON, and has BUSINESS to TRANSACT in most of the LEADING MINES in CORNWALL, DEVON, and WALES.—For particulars apply at his offices, 77, Old Broad-street, City. 24

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.* 25

METALLURGICAL ASSAYING AND ANALYSIS, on the most reasonable terms, by ALFRED SENIOR MERRY, *SHERBOURNE-STREET, BIRMINGHAM.* 26

CAMBORNE CONSOLS MINING COMPANY.—NOTICE OF CALL.—Notice is hereby given, that the directors have this day resolved that the subscribers, or shareholders, in this company PAY, and they are hereby required to pay, on or before the 21st day of April next, into the bank of Messrs. Praed and Co., 189, Fleet-street, London, a CALL of ONE POUND upon each and every share held by them in this company; and that, pursuant to Art. 116 of the Company's Deed of Settlement, all and every share, or shares, upon which the said call of £1 per share shall not be paid within 14 days after becoming due, will be subject to absolute forfeiture.

No payment on account of the aforesaid call will be received by the company's bankers without a special order, which may be obtained on application to the secretary, at the company's offices, 29, Poultry, with whom the present certificates must be deposited, to be exchanged for share certificates of £6 paid.

By order of the board of directors,
TUCKER & STEVENSON,
Sun Chambers, Threadneedle-street,
Solicitors to the Camborne Consols Mining Company.
London, this 19th day of March, 1849. 27

REAL DEL MONTE MINING COMPANY.—Notice is hereby given, that, in accordance with the resolutions passed at two general meetings of the Real del Monte Mining Company, for the dissolution thereof, the directors have proceeded, under the Deed of Settlement, to DISPOSE of the CONCERN to certain highly respectable persons resident in Mexico, upon terms which, they trust, will relieve the shareholders from all future liability; a precise statement of which terms now lies at the office for the inspection of all the parties interested therein. The Mexican Company have intimated their intention to RESERVE a certain NUMBER of their SHARES for such of the shareholders of the OLD COMPANY as may be disposed to subscribe for them.

By order of the directors, JOHN PHILLIPS, Secretary. 28

KINZIGTHAL MINING ASSOCIATION, No. 1, Adelaide-place, March 24, 1849.—The SECOND GENERAL ANNUAL MEETING of this association will be HELD at the offices of the company, 1, Adelaide-place, London-bridge, on Friday, the 20th April next, at One o'clock precisely.

GEO. COPELAND CAPPER, Secretary. 29

DUISBURG IRON-WORKS AND MINES, in WESTPHALIA, CLOSE TO THE RHINE.
MANAGED IN ENGLAND ON THE COST-BOOK PRINCIPLE. 30

The demand of the North-Western States of the Zollverein for pig-iron smelted with coke requires an annual importation which, in 1846, exceeded 100,000 tons of that metal. Its present average current price, in Westphalia, inclusive of duty, is, per ton £5 16 8
Being possessed of extensive mines of iron ore, *entirely paid for*, the Duisburg Company proposes to turn out this year only 150 tons of pig-iron, made with coke, per week, which, owing to circumstances peculiarly favourable as to minerals, fuel, and carriage, can be produced at a cost, per ton, not exceeding 2 0 0

Thus leaving for division among the holders of the 3000 shares, in which the capital stock is divided, a *net profit*, per ton, of £3 16 8
Or £9 per share of £15.

Every further information to be obtained, and specimens inspected, at the company's offices in London, 28, Moorgate-street.

DUISBURG IRON-WORKS AND MINES.
COMPANY'S OFFICES, 28, MOORGATE-STREET, CITY.

Notice is hereby given, that NO APPLICATIONS FOR SHARES will be RECEIVED after SATURDAY (this day), the 14th April.—March 31, 1849. 31

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at consider ably reduced prices.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.
Penhellick Fuse Factory, Pool, Truro, Cornwall. 32

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH-TOWN, LONDON,* 33

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

TO COLLIERY PROPRIETORS.
"STRUVE'S PATENT MINE VENTILATOR."

Quantity of air passed through a Mine almost unlimited, depending on size of apparatus.
No injury to pumps, tubbing, chains, ropes, or pitwork.
Goaves kept clear. 34
Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind.
Current of air undeviating.
LICENSES will be GRANTED on application to
Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Forrest and Evans, Neath.

LITERARY NOTICES.

Political Principles, and Political Consistency. By "PLAIN FACTS." London: John Ollivier, Pall Mall.

In a former Number we noticed favourably a pamphlet by the above author, entitled *Answer to Lord George Bentinck's Address to the Electors of the Borough of King's Lynn on the Eve of the General Election of* 1847; and we have now before us another *brochure*, in which the object (as stated in the introduction) is to show what "political consistency" really ought to imply, and what are the "principles" which should guide the conduct of a good statesman. In the early part of the present century, when the first germs of the principles of a thorough reformation in the representation of the people and the policy of Governments began to spread throughout the land, the high Conservative party contended, and attempted to teach, that "political consistency" was founded in an unflinching pursuit of the same line of conduct, under all circumstances, without reference to the changing nature of the times, the increased intelligence, or improved habits of the people. Every step towards reform was considered by them as an invasion of some vested right; every concession to the people a curtailment of some supposed rightful privilege; and hence, when Sir Robert Peel, with a nobility of mind which few could boast, threw aside the Tory trammels with which his education and early habits had been interwoven, and shaped his measures to meet the advanced condition of the age, he was attacked on all sides as a changeling and a turncoat; while, in fact, his whole line of conduct was founded on true consistency, and those alone were not consistent who, with "liberty" and "fair representation" in their mouths, were attempting to grind the masses to the earth, by continuing a system of government founded on the ignorance and barbarism of a feudal age. We are happy to see that "Plain Facts" takes a broad and liberal view of what really is "political consistency." We have not space to extend this notice on the present occasion, but, as a specimen of the author's style, we give the following extracts from a comparison of Cato and Cicero, than whom, perhaps, the principles of two great statesmen, as applicable to the subject, could not have been found, he says—"When I am told that a man has acted through the course of a long life in strict attachment to the same principles of government, and that he has been an unswerving friend to his 'party,' I cannot believe that that man has always pursued a conscientious and deliberate course, nor that his sole object was to forward the prosperity of his country. Recent circumstances strongly call to mind the principles entertained and practised by the philosophers of ancient Rome. The Stoics, who were the bigots, or enthusiasts, in philosophy, held no one to be truly wise or good but themselves; they affirmed that a wise man could never forgive—never be moved to anger, favour, or pity, —never be deceived—never repent—never change his mind. Such are said to have been the political principles of Cato. He made no distinction of times or things; it was his maxim to combat all power not built upon the laws, or to defy it at least, if he could not control it; and whatever obstructions he met with, resolved still to rush on, and either to surmount them or to perish in the attempt. It appears that he acted upon the most rigorous principles, without reflecting for a moment on the consequences, or paying the slightest attentions to the progress of events, and the changing condition of the people. He alienated his friends without reconciling his enemies, and helped to hasten that ruin it was his duty to strive to avert; and, after many disappointments and repulses, and finding himself unable to pursue his old course any further, instead of taking a new one, he was driven by his philosophy to put an end to his life. How different were the principles of the academics, represented by that great man Cicero. They did not consider human opinions infallible, nor that the same laws were applicable at all times, and under all circumstances. * * * How different were the political principles of these two men—men, both of whom certainly occupy a prominent position in the history of their country. * * * But the principles of the Stoics of ancient Rome are unfortunately not yet extinct. Their deleterious influence has caused the misery and ruin of more than one modern state; while even in our own country men have lately been severely upbraided with having 'violated every political principle, declared or implied,' upon which they had a few years before obtained the confidence of the people. The principles alluded to were, that the good and prosperity of the nation were involved in the maintenance of the laws of protection. In the meantime, however, some of the less important of those laws were repealed, or modified, the results of which encouraged an extension of the same course; experience again gave a favourable verdict, altered the opinions of all sincere and conscientious thinking men, and convinced them of the justice and necessity of pursuing a line of policy which was proved to be so beneficial to the country."

The Science of Life; or, How to Live, and What to Live for; with Practical Remarks on Health, Diet, and Longevity. By a PHYSICIAN. London: Kent and Richards, Paternoster-row.

A little work, under the above title, has just issued from the press, and appears to us to possess much merit. On such a subject it is often difficult to avoid the use of language which is offensive to delicate ears, but in the volume before us the author has treated in the most easy and familiar manner, and yet without ever being led into the commission of an unguarded expression. In his preface, it is stated that the author, in these pages, approaches the public as a husband, a father, and a physician, attributes which alone can render any man really competent to teach and advise on these important topics. The work commences with a popular description of the anatomy and physiology of man, then proceeds to lay down rules for food and treatment from infancy through all the stages of life; the various diseases to which human nature is subject, and their treatment; the various food and vegetables in season throughout the year; and, in fact, as far as human agency can go, for the preservation of health and prolongation of life, fully bears out its title. Its contents are in language suited to the capacities of all who can read, and should certainly be in the possession of every young mother.

IMPROVEMENTS IN THE MANUFACTURE OF CHISELS AND GOUGES.—Mr. H. Wilson, foreman at Messrs. Greaves's, Sheaf Works, Sheffield, has just obtained a patent, in the specification of which he states, that in the manufacture of chisels and gouges it has been the practice to make some with sockets and others with tangs, for the purpose of affixing the handles to the same, the tangs and sockets in each case being used alone. The object of this invention is to combine the use of a socket and a tang with the same chisel or gouge, whereby each of such tools may be applied to the ordinary uses of a chisel and gouge, and to morticing, so that the workman will not require to have a tool for each purpose. The old socket-chisels and gouges have wooden handles inserted into their sockets; those handles, when the tool is being used, receive the blows or strokes of a mallet, and often those of a hammer, and are much subjected to lateral strain, from which circumstances the handles are liable to break off at the upper edge of the sockets, and the patentee considers that the addition of tangs to such tools will give greater stability to the handles. The ordinary tanged chisels and gouges also have wooden handles, which are drilled, and the tangs are driven into them, and in some cases ferrules are applied to the lower parts of the handles; the handles of these tools are liable to be split, not only by the side strain to which they are subject when in use, but also by reason of the tools being often driven by a mallet or hammer, and it is to obviate these defects that the patentee proposes to combine sockets with the tangs. In making chisels and gouges according to this invention, the sockets may be forged with the tangs, or be welded, brazed, or otherwise affixed thereto. The patentee claims the mode of manufacturing chisels and gouges by combining the use of tangs and sockets in the same instrument.

THE PITCH LAKE OF TRINIDAD.—An important communication has been made by the Earl of Dundonald to Lord Harris, the governor of the island, on the subject of the substitution of the bitumen from the famous pitch lake of La Brea, in lieu of coal, for the generation of steam to the extent of two-thirds of this fuel, which would cause a great amelioration of the onerous expenses attendant on the manufacture of sugar; and what is of far more importance in the older colonies, where the land is worn out, restoring to the soil, in the form of manure the refuse of the cane fields now used for fuel. He procured, from an intelligent planter, a plan of a furnace, in which the consumption of two-thirds of bitumen had been most successful. From the short description we have been able to obtain, without a diagram, it appears that the bitumen is poured into a recess, or pit, just below the fire-bars, leaving sufficient room for a rapid current of atmospheric air. As the pitch is decomposed, the dense smoke and gases are carried through the incandescent fuel, and go off in flame and great heat. It appears his lordship made the tour of the island with the earl, in her Majesty's steam sloop *Scourge*, and witnessed the experiments made with the bitumen for producing steam. The Earl of Dundonald has forwarded a plan of the furnace to the governor, to be entirely at his lordship's disposal. Since writing the above, we have met with the following additional particulars in the *Port of Spain Gazette*:—"From time to time the practicability of using pitch as a fuel for the generating of steam, both as regards land and marine engines, has been brought before the public; but either from the absence of any pretensions to reputation for scientific research in this colony, or failure, whole or partial, in the experiments made to test the practicability of the scheme, the public have been led at first to doubt, and latterly totally to disbelieve, the possibility of the useful adaptation of pitch as fuel But the importance which attaches to any opinion on such a subject expressed by a man of Earl Dundonald's standing in the scientific world, and the extremely satisfactory results of his lordship's experiments, circumscribed as they could not but be under the circumstances, will, we trust, be sufficient to attract a new and particular attention to this important subject; and to awaken the notice of a high and eligible commercial body; more particularly do we hope the subject will attract the attention of the Royal Mail Steam-Packet Company, whose intercolonial steamers consume a vast quantity of coal, conveyed at great cost from England to the several depôts, for the whole of which, under a proper adaptation of their furnaces, the pitch might prove a cheap and effectual substitute. No costly 'plant,' in the shape of buildings, would be necessary for this purpose, nor would any expensive agency for the digging of the pitch, and conveying it to the shipping-place, be required. Contracts to furnish the necessary number of tons of pitch at stated periods would be readily entered into by competent contractors; and the seaboard of the lake would afford full facility for shipping purposes. The first step the company would take, we presume, would be the submitting the pitch to a series of accurate experiments in a laboratory to test its powers of generating caloric, as compared with the power of coal; but that this point may be satisfactorily tried, great care should be taken that the pure pitch of the lake, and none other, be used in these experiments. Many years ago a celebrated chemist analysed what he understood to be a specimen of pitch from the Trinidad Lake, and pronounced it to be mere porous stone. It was afterwards discovered that the substance used in the experiment was a very inferior specimen of the mixture of earth and pitch to be found in the neighbourhood of San Fernando."

OPENING OF THE SHROPSHIRE UNION.—The line between Shrewsbury and Stafford is now completed, and will be opened for public traffic in May. The line is 36 miles, running through a rich agricultural country, and contiguously to the coal and iron-works of the Duke of Sutherland, between Newport and Wellington. It accommodates Haughton, Gnosall, Newport, Donnington, Hadley, Lilleshall, Walcot, and other places.

FOUR MONTHS AMONGST THE GOLDFINDERS IN CALIFORNIA*

Here is a gentleman who knows all about it!—a live Englishman, who has set foot in the diggings, has had his hand in the washings, has couched for the dust till his eyes ached, has picked up lumps as big as your fist without any labour at all, has made his fortune like a "stag," and lost it like a donkey, and, in fact, gone through a regular Californian experience in less than no time at all. We are by no means sorry to take J. Tyrwhitt Brooks, M.D., by the button for ten minutes, and to hear from his own lips a veritable account of the mystery. Indeed, we need a little of his cooling medicine before the next packet arrives, to recover from the excitement occasioned by the extraordinary accounts brought to us by the last. Our medical friend's experience is a perfect shaftings. We strongly recommend it to all the agitated curates, lawyers' clerks, and bankers' ditto, who are firmly resolved to throw up civilisation and their hundred-a-year next quarter day, to buy with their poor savings a spade and a cradle, and to set up in another hemisphere upon their own account as dealers in bullion, wholesale and for exportation. The dose is not a severe one. A very few pages tell the whole business. The Doctor was not long, as the title of his volume indicates, in California, but quite long enough to be sickened. He leaves El Dorado as poor as he went thither, and comes away by no means elated by his adventures. He is just the man for us at the present crisis. He shall tell his own tale.

We have already seen that our friend is a member of the medical profession. It would appear that he left his country originally to find employment in Oregon, that he failed in his object, and that he finally quitted that "barren desert-like place," to try his luck in California, the soil of which country was represented to him as one of extraordinary fertility, but of whose mineral wealth he at the time knew nothing. The war between the United States and Mexico was then at its height. One Mr. Malcolm, a Scotchman, and a practical agriculturist, offered to accompany the adventurer, and both set out for the already renowned San Francisco. Reaching the port, they fell in with an American settler, a Mr. Bradley, who proposed to make one of the party, and the three started off for Monterey, a town also on the coast, and south of San Francisco. At Monterey Dr. Brooks learned that California is no place for doctors to settle in, and, much disgusted with the intelligence, made his way back at once to San Francisco. It was on arriving at the last-named place for the second time that the first definite intelligence respecting the great gold discovery reached his ears. Of course they pricked up amazingly.

A man had seen a man who had seen another man who, a 100 miles away in the interior of the country, at a river called "the American Fork," had, in the course of the week, taken 23 ozs. of gold out of the water with the least possible inconvenience. The doctor had been unfortunate from his birth. Providence was just, and was about to make amends. It was decided forthwith to start for the "Fork," which is situated in the Sacramento settlements. The distance was 120 miles; nothing at all to the three adventurous spirits. The resolution was taken on the 8th of May last. Before the 13th, San Francisco was half mad. Individuals were walking about the town with lumps of the precious metal in their breeches pockets. They showed their treasures, intimated how they got them, and the workpeople struck to a man. The doctor and his friends were to make their journey on horseback; but the saddlers were already riding on their own manufactures to the golden region themselves. The doctor took bodily possession of one saddler; and by dint of paying him exorbitantly for his labour, and of watching him till the work was complete, obtained, after much anxiety and delay, the means of setting out for himself and his friends. The party, by the way, had increased. One Don Luis Palo, from Monterey, arrived with his servant José, a converted Indian, and craved permission to join the partnership. He was admitted; so also was one M'Phail, from Oregon. We have all heard, by this time, of Sutter's Fort. Captain Sutter is a Swiss, was one of Charles X.'s guard in 1830, and still carries the scar of a wound received during the three "glorious" days. He was the first white men who settled in those parts. Ten years ago he received a grant of land, 60 miles one way, and 12 another; and at this moment he has about 1700 acres under cultivation. His fort, built by Indians, lies on the American Fork. The travellers reached the captain's abode, and heard from his own lips the history of the great Californian discovery. Our readers know, from other accounts, all about the mill-wheel and the tail race, so we may pass over the history here; whilst Capt. Sutter narrated it the poor doctor was in a state of extreme agitation. He was most nervously anxious to be off. As the point of operations grew nearer, the wondrous tales became more magnificient, the evidences of positive treasure more clear, the bustle and animation of greedy multitudes more irritating and intense.

On Sunday, June 4th, they left the fort. At noon they halted to refresh "by the side of a small stream of crystal purity." The corner of every man's eye peered wickedly into the crystal stream for golden intimations. None was there; the happy spot was not yet reached. They pushed on; the scenery was no doubt very beautiful; but who thinks of scenery in a chaise-and-four, with a lovely and blushing bride at his side? The lofty Sierra Nevada was, we dare say, a glorious ridge of snow-capped mountains; but the little bright lumps in the distance utterly put out the mountains above our travellers' very noses. Finally, at sundown they came upon the lower mines. Forty tents were scattered on the river side, occupied mostly by Americans and their families. It was Sunday; yet everybody was at work. There were men with their naked arms washing out golden flakes from the generous soil; others passing gold-dust through sieves; others again washing lumps of soil in pots, and stirring them up to separate the lighter particles from the mass. The doctor immediately called to mind all he had read in his youth in the *Arabian Nights:* what plans he at the same time formed for his family, how much he patriotically proposed to himself to give to Sir Charles Wood towards the annihilation of the national debt, what hospitals he would erect, what churches endow, it is impossible for us to say. It is our simple but very painful office to confess that, although the day was the Sabbath, and although the doctor had been travelling from sunrise to sunset, and although it was high time to say his prayers and go to bed, he positively set to work on the very Sunday night of his arrival, and never left off until he was in a condition to return the congratulations of his American friend Bradley, who met him at the close of the night's operations in tip-top spirits, and with a shrewd "guess that this is the way we do the trick down in these clearings."

Real business may be said to have begun on the following morning. Two of the horses belonging to the party had escaped, and it was necessary to recover them. Who should go in search of the runaways? It is pleasing to think that the doctor and his friends were not forgetful of what was due to the young Indian catechumen. To leave gold digging, and to run after stray horses, evidently required the exercise of Christian self-denial; the youngest Christian needed most practice, and so José was selected for the office. The youth was modest, and declined the honour. Bradley, of the United States, seized his rifle, and threatened to shoot the lad if he disobeyed orders; so the young Christian was convinced, and went after the horses. After dinner on the Monday, Dr. Brooks was so completely knocked up with his work that he could do nothing more. His reflections at this point are admirable:—"After dinner (he says) we determined to rest until the next day. The fact is, that the human frame will not stand, and was never intended to stand, a course of incessant toil; indeed, I believe that, in civilised communities, the Sabbath, bringing round, as it does, a stated remission from labour, is an institution physically necessary."

Dr. Brooks, in other words, with a profound sense of his moral and religious duties, piously resolved, upon consideration, not to work again on the Sabbath—if he should find himself unable. Thus fortified, labour went on, and the labourer prospered. Gold, indeed, was to be had for the picking up; there was no mistake about it. "I reckon," said a Kentuckian, addressing the doctor one morning at the diggings, "I reckon old John Bull will scrunch up his fingers in his empty pockets when he comes to hear of it. It's a most everlasting wonderful thing, and that's a fact, that beats Joe Dunkin's gooseberry pie and apple sarce." The doctor quite agreed with him.

The average produce of a day's work amounted to something like 16 ozs. of gold each man, the value of an ounce being $14. But the price of a common shovel for digging purposes was $30; and Hiram Ensloe, a Yankee, who kept a store at the "Placer," charged $15 for a small pair of ordinary brass scales. Everything else was in proportion, even to doctors' advice. Bad diet, daily exposure to a burning sun at noon, followed by an exposure to the cold damp air at night, brought many of the miners down, and plagued them with low fever. Our friend the doctor was the only medical man at the diggings; his stock of medicine was small, and, like a prudent person, he made the most of it. An ounce of gold was his fee for advice and medicine at starting, but as the drugs declined the price was raised, and finally the advice alone was all that the physician was disposed to give in return for the fee. Thus, even in California, and amidst whole rivers full of gold, do things find their level, and the balance which weighs the varied relations of man is carefully adjusted!

On Monday, July 24, our party, having done well at the "diggings" and "washings," and becoming naturally disgusted at the continual pouring in of fresh gold-worshippers, resolve to go northward, and to try their luck at a less frequented tributary of the Sacramento, called the Bear River. A trapper, for $65 and his food, offered to become their guide. A lawyer, a sailor, and a carpenter, proposed to join the society, and, thus strengthened, the force set forth. No signs of human life welcomed them on the spot, upon which a shanty was at once erected. Labour was apportioned to each man, and the trapper agreed to become the general servant, provided he might hunt for his masters, and have nothing to do with the gold digging. He was as indifferent to the grand object of man's love as though he were a trapper in Mr. Cooper's last novel; but he was not the less appreciated on that account by his employers. Nature was as prodigal as ever. Amongst loose particles of rock several lumps of gold were picked up, of a much larger size than any that had before been met with. There was no limit to expectation, or to the promises of these glorious rivers. How rich Dr. Brooks and his company would have become, if circumstances had not arisen to render them deplorably poor, it is not easy to conjecture. But circumstances did arise, and out of them springs the whole moral of this history.

One morning three of the party set out upon a hunting expedition, accompanied by the old trapper. The converted Indian and the lawyer above-mentioned remained at the camp. The rest of the party proceeded to a neighbouring ravine with their implements, and for the usual object. After working for a few hours, the diggers procured more gold than they had obtained in any two days before. They were on the point of returning to the shanty when a rustling was heard near them, and shortly afterwards an Indian was seen stealing along as if to avoid observation. Being perceived he discharged an arrow, which lacerated the ear of one Mr. Dowling, who, smarting under the wound, leaped forward, buried his mattock in the head of his foe, and killed him on the spot. At the very moment the crack of a rifle was heard in the direction of the camp and immediately afterwards a whole troop of Indians approached the diggers at full speed. The latter sought shelter in a dell close by, and there prepared themselves for attack. First came a shower of arrows, which the diggers answered with rifle shots that told. The Indians, panic struck, made off with their wounded, and left the white men in possession of the field. This was the beginning of the end. Returning to the camp, the victors were informed that one of the hunting party, Mr. M'Phail, was missing. At one o'clock in the morning a portion of the society set out in search of him, though ignorant altogether of his track. Several fires were visible on the hill sides at the distance of half a mile, and towards them the party valiantly directed their steps. Coming close upon them the travellers dismounted, gave their horses in charge to a boy, who remained behind, and then cautiously advanced; when they were within 100 paces of the camp fires a shot was heard, and then a shrill whistle. Both had come from the camp, and the former was about to be answered, when a familiar "D—n you, who goes there?" proceeding from the same direction, caused our friends to desist, and to look about them. They had hardly time to do so when a shout from the lad in charge of the horses called them instantly to his assistance. They hastened to him, but the poor fellow was already murdered and scalped. A tribe of Indians had settled his fate, but the camp fires had been lit by a set of diggers and washers, like our friends, who were visiting these distant quarters with the same civilised object as the gentlemen who had mistaken them for natives, and who were prepared to slaughter them accordingly. The missing man of the hunting party turned up in a day or two.

Sickness broke out, provisions became low, fear of attack constantly prevailed, defences were necessary, excitement rendered the labourers unfit for regular work. At the end of a month nearly every man began to think that he had enough of it; the doctor, for his part, felt inclined to return to the coast forthwith. There was a large quantity of gold in the camp. What was to be done with it? Don Luis and Bradley, the American, volunteered to take the treasure to San Francisco, and to deliver it to the custody of some merchant there, on the joint account of the company. The doctor didn't like the suggestion, for the temptation to make off with the booty was great. His friend, Malcolm, however, proposed to accompany the pair, and the 5th of Sept. was fixed for their journey. On the 5th the threesome set out—Malcolm carried the bulk of the gold; Don Luis and Bradley formed his guard. The former had 7lbs. weight on his horse—the latter had each 14lbs. in their saddle-bags. Late in the morning of this same eventful 5th of Sept. Bradley galloped up to the camp, and Don Luis shortly after him. Malcolm was not with them. The best part of the gold was gone. When all but within sight of the Sacramento Valley, a party of Indians had attacked them for the sake of their treasure—had all but killed Malcolm, and had quite taken away his gold. The former was now under the care of a Californian woman; the latter—who could tell where that was? "Throughout the whole of this night," says Dr. Brooks, "most of the party remained gathered round the camp fire—now in sullen silence, and now expressing their bitter dissatisfaction, which had led to the day's misfortune. And when the first faint light of daybreak showed over the tall peaks of the snowy mountains, it discovered us looking haggard and dejected—alike wearied and disgusted with every thing around."

The partnership was about to close; it was deemed advisable to share whatever gold remained, and to break up the establishment. Each man received 4 lbs. 2 ozs. in the distribution—every body squabbled, and nobody was satisfied. Some resolved to set out forthwith in search of the marauders—others were too sick to move. Those who were in health had been taught selfishness sufficient in their pursuit of gold to be perfectly oblivious of the danger to which the wretches were exposed whom sickness detained at the camp, and placed at the mercy of the natives who had scalped the lad in charge of the horses. Our hero, of course, made one of the party in pursuit of the robbers and the gold. Upon the return of the doctor and his friends southward to the diggings, there was a perceptible change in the gold-teeming district. The rainy season was close at hand, when great mortality might be expected. Many deaths, indeed, had already taken place—two-thirds of the folks at the settlement were unable, from sickness, to leave their tents—the remaining third, we grieve to say, were too intent upon their labour to render the sufferers any aid whatever. Rapidly decaying vegetation produced malaria, malaria disease; but, whilst a man had strength to scoop out the precious particles, or to hunt for the more inviting knobs, he braved the malaria, and he fought against the disease. There were other disagreeables at the diggings—life and property were becoming insecure. A man amassed gold; he was watched and followed, and then—he was missed. The dead were by no means so numerous as the missing. Let a digger get as much as he would, he would carry his precious burden about his person. At night, asleep, his gold would be under his pillow, and his bedfellows a revolver and a rifle. One or two dead bodies had been found floating in the river, without their gold. Altogether life at the diggings was getting as pleasant as life on a raft at sea, when lots are about to be cast for a melancholy purpose, and when humanity has been thrust from the soul by the entrance of passions that drag men down to the level of the brute.

The prices of every article of consumption and use had gone up amazingly. Clothing was not to be had at any price. Brandy was selling at a dollar a dram. Pitiable gold-diggers paid this price for the liquid which they swallowed dram after dram—Heaven help them!—to quench the burning thirst of their fever. One of our friends entered the shanty of a big bony American to make a civil inquiry. The latter coolly took down his rifle, and threatened to make a hole in his skull if he did not depart without another word. He had already shot two visitors, and had threatened a host of others. Explanation was given afterwards. It appeared that the big bony American had accumulated a large amount of gold; and it was his firm conviction that every man who entered his shanty, came there to examine its weak points, with a view of plundering him of his booty at a more convenient season.

The search for the marauders was fruitless. At San Francisco the pursuers called at the house of an alcaide to consult with this functionary as to the best steps to be taken for securing the fugitives, but all the magistrates had gone off to the diggings, so had the police, so had everybody. After a short and useless pursuit, Dr. Brooks and his companions gave in. "We turned our horses' heads," he says, "and retraced our steps towards the coast in no merry mood. We rode along, in fact, in sullen silence, only broken to mutter out our expressions of disappointment at the escape of those who had robbed us of the fruits of so many months of toil, exposure, and hardship." They arrived at Monterey again, shook hands, and separated. Don Luis went back to his pleasant home. Bradley started for San Francisco. The Doctor was left alone. Upon the 11th day of October, 1848, he writes home to his friends. One passage from his instructive document shall close this hasty narrative of his adventures:—"Three months ago," so he writes to "Dear George," his brother, in England, "I thought my fortune was made, and that I might come home a South American nabob. Nothing of the kind; here I was almost on the spot when the first news of the gold was received. I have worked hard, and undergone some hardships, and, thanks to the now almost lawless state of this country, I have been deprived of the great mass of my savings, and must, when the dry season comes round again, set to work almost anew. I have but $1400 worth of the precious metal remaining; and, with the rate of prices which now universally prevails here, that will not keep me much over a couple of months. My own case is that of many others. As the number of diggers and miners augmented, robberies and violence became frequent. At first (when we arrived at the Mormon diggings, for example) everything was tranquil—every man worked for himself without disturbing his neighbour. Now the scene is widely changed indeed. When I was last there things were bad enough; but now, according to the reports we hear, no man, known to be in possession of much gold, dare say, as he lays down his head at night, that he will ever rise from his pillow." There are sermons in stones—there is a moral in gold; and, in this instance, there needs little digging and scratching to bring it out. Dr. Brooks was on the spot when the glorious tidings of a newly-discovered world came to his ears. Within a few miles of him there was gold enough on the earth's bosom to buy an empire. He stretched forth his hands and burned his fingers. Reader, why should you journey over sea and mountain, through difficulty, danger, trial, vexation, and trouble, to achieve the same foolish and unprofitable purpose? There is gold under your very eyes, if you will but see it. It will spring from the earth at your bidding, or rise from the waters. Speak—AND WORK!—The *Times*.

* *Four Months amongst the Goldfinders in Alta California; being the Diary of an Expedition from San Francisco to the Gold Districts.* By T. Tyrwhitt Brooks, M.D.—D. Bogue.

VALPARAISO, JAN. 30.—The news from the gold region is more cheering than ever, so far as an abundance of gold is concerned. New discoveries are being daily made. At Sonoma, on the north side of the bay, at Santa Rosa, and in the neighbourhood of the Ciudad de los Angelos, gold has been found in as great abundance as on the American Fork. The amounts taken in a day are reported to be enormous. In what are called "the dry diggings," enormous pieces of solid gold have been taken out of the rock. We will not pretend to state what size the largest piece found is said to be, but one piece which has been brought to the islands weighs 5 ozs. An enormous quantity of gold has been taken from the earth. About $100,000 worth of gold came in the *Mary Frances*. The abundance of gold, and the ease with which it is acquired, have not been at all exaggerated in the accounts which have reached this place. On the other hand, much sickness prevails, on account of exposure and the irregular manner of living, which those engaged in digging are obliged to submit to. A gentleman from the mines informs us that nine-tenths of all who have gone up to the diggings have been taken sick, either on the ground, on their passage down, or after their arrival at San Francisco. Doubtless much of the sickness is owing to dissipation and consequent exposure. The fever and ague season has passed, but the bilious and intermittent fevers still prevail to an alarming extent. A gentleman from the coast informs us that hundreds were lying sick at Sutter's Fort, unable to procure a passage to San Francisco, and suffering from want of attendance and the necessaries of life. Many deaths have occurred of which no notice is taken. The expense of living is high. Board and lodging, three in a bed or on the floor, $20 to $30 per week at San Francisco. Pork $50 per barrel at San Francisco, and $200 at the mines. Provisions are not scarce, but exorbitantly high. Such an influx of population renders it impossible to procure any accommodations. Every house, shanty, and shed, is crowded, and still the wonder is where all find places to sleep. We are told that $5 per night has been paid for lodging, and that on a nine-pin alley. As might be expected under such circumstances, there is much dissipation and gambling. A gentleman who formerly resided here writes, that he has seen more gambling there in one day, than he ever saw in all his life. In such a state of society, it will not be strange if quarrels arise, which will result in bloodshed. At present the law is in a measure powerless, but we hope and trust that there will be found among those who congregate there a sufficient number of lovers of good order to preserve quiet, and punish those who may be guilty of crime. San Francisco is increasing slowly, it being impossible to erect many buildings at the present high rates of wages. The *Californian* notices a new hotel, and a new store in process of erection. Mechanics and labourers cannot be procured at any rate, all preferring to take the chances which digging presents to working for even $10 a day and boarded. The whole fleet of vessels, 25 in number, lying in port when the *Mary Frances* sailed, could not muster 50 men, all having deserted and gone to the mines.—*Times*.

Our accounts from Panama of the 24th of February are of later date than have hitherto been received, and contain some interesting details concerning the trade of that city in connection with the Californian gold regions. The writer of one letter says—"The best gold mine now is Panama, particularly for those who are established, and who know how to manage their business." The latest intelligence received at Panama, from San Francisco, fully bore out the previous accounts, which admitted of no doubt that the gold washings (for they are not mines) were accessible to all, and extended over a length of 600 miles. Two vessels arrived at Panama, on the 22d of February, from the gold regions; one had $100,000 in gold on board, the other a much more considerable sum, although the consignees would not make public the amount. An American sloop of war was expected with $400,000, and it was stated that all the speculators who had left Panama six months before had realized the whole of their cargoes at immense profits. A large influx of bullion was expected at Panama. A Mr. Alexander Cross had sent a solid piece of gold, weighing 10 ounces, as a present to his wife in Panama. About 2000 passengers had crossed the Isthmus since the 26th of December, and there were nearly 1000 on the route when the *Clyde* left Chagres. About 800 had left Panama in the steamer, *California*, and other vessels. The first party that arrived suffered considerably, as they reached the Isthmus during the rainy month; subsequent travellers have enjoyed good health, and suffered little or no hardships. Provisions at Chagres and Panama were somewhat dear, but far from scarce, and travellers could now easily find food at cheap rates, and lodgings at a moderate price. The American steamer, *Oregon*, arrived on the 22d, and other vessels were expected. A great demand for passage to San Francisco resulted from the number of emigrants remaining at Panama. The corps of engineers sent from New York by Messrs. Aspinwall and Co., 45 in number, were hard at work, making surveys for the railroad. It was supposed their labours would be concluded by the 1st of July; and, should no insuperable difficulties be met with, the road would be commenced on the 1st of Jan. next, and completed in two years. The American steamers, *Falcon* and *Crescent City*, had again arrived at Chagres, for the safety of the latter vessel great fears were entertained, in consequence of her long passage from New York. She had 305 passengers.—*Times*.

The *Journal du Havre* of Tuesday contains the following:—"The *Cosmopolite* brings palpable proofs of the reality of the marvellous treasures embedded in the soil of California. Among her passengers were two Europeans, laden with the *opima spolia* of the modern El Dorado. One of them, named Glein, who was a blacksmith of Hesse Cassel, realised, by the sale of a small property he possessed in California, thirty-two pounds weight of gold. Another man, named Michel, has brought eighteen pounds weight, collected by himself. We learn by this vessel that a native of Havre, named Boc, a cooper by trade, who had deserted from one of our whalers, after employing himself for a month in sterile explorings, at the end came to a place where, in a few days, he collected gold-dust to the value of 15,000 f."

FOREIGN MANUFACTURES.—An importation recently took place of a quantity of files, being manufactures of steel, by a vessel from Rotterdam, which were placed under detention by the revenue officers, for having the words "cast steel" upon them; there being in this instance no name of foreign maker or place on the goods, to distinguish them as being other than of British manufacture, it has been decided and directed by the authorities that the files must be returned to the place from which they had been shipped for this country.

AMPUTATION AGAIN PREVENTED BY HOLLOWAY'S OINTMENT AND PILLS.—Extract of a letter from Mr. S. Smith, 69, Capel-street, Dublin, dated March 13, 1849:—"Dear Sir,—I think it only my duty to inform you and the public of the wonderful cure your ointment and pills have effected on me. For three years I had a dreadful wound in my leg. I tried all the faculty in this city, but to no purpose; they informed me that nothing could save my life but amputation. I was then advised by a celebrated doctor to use your remedies, which in a brief period have healed my leg, and made it as strong as it formerly was."—Sold by all venders of medicine; and at Professor Holloway's establishment, 244, Strand, London.

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Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY.....Southwark and Vauxhall Water Company—offices, at One.
General Reversionary Investment Company—offices, at One.

MONDAY.....Condurrow Mining Company—at the mine.

TUESDAY.....Grand Surrey Docks and Canal Company—offices, at Twelve.

WEDNESDAY..Independent Gas-Light and Coke Company—London Tavern, at One.

FRIDAY.....Kinzigthal Mining Association—offices, at One.
Hungerford Market Company—offices, at One.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

TINCROFT MINING COMPANY.

The annual general meeting of shareholders was held at the offices, Finsbury-square, on Tuesday last, the 10th inst.,

RICHARD HODGSON, Esq., in the chair.

The notice convening the meeting having been read, the following report was submitted:—

The directors having had the pleasure of meeting you here so recently, and having detailed so fully to you the very important alterations and decided improvements in the various parts of the underground workings of the mine, so far as they had at that time been developed, have now the further most gratifying satisfaction to inform you that the succeeding three months have been attended with still more satisfactory results. It was reported to you then that the reserves of ores, tin and copper, were to the extent of 60,000*l.*; these reserves have not been encroached upon, but have, on the contrary, been considerably added too, and the mine is now in a position to add greatly to the security of the proprietary as a permanent investment: In this light the directors are pleased to look upon it, and to express to you their confidence in the permanence of the undertaking as a profitable investment. This is no new idea, for during the past untoward and disheartening two years, the directors have never wavered in their confidence; and they appeal to their fellow shareholders, now that better times have but just dawned upon us, whether they have not, one and all, endeavoured by their every act to incite each and all the proprietors to a steady perseverance; how far they have been successful in this (to them) anxious solicitude, you gentlemen must judge. It should never be lost sight of that the locality of this mine, surrounded as it is by numerous mines of the first class for productiveness, warrants the belief that while such mines as Carn Brea, Basset Seton, and a host of others continue profitable, there can be no fear of a falling off in Tincroft, at least, in the quantity of tin and copper ores, the market value of which cannot altogether be controlled; but, in this respect, the directors are boldly doing their utmost to secure your interest, and with well-grounded expectations of a successful result, as far as regards tin ores. The accounts will be presented to you, embracing but three months since the last meeting; you will be pleased to see a balance in your favour to the end of January, which is the closest period to which they can be made up. It is right to mention that a considerable outlay has been made in surface works, as well as in successful development of those underground. A large outlay in money has been devoted to the stamps and dressing floors, all of which are deductions from the otherwise past three months profits; we have, however, the satisfaction to state to you that the agent admits that in all respects the machinery and dressing floors are now perfect for all required purposes. It may be acceptable to this meeting to know that the recent improvements in the stamps' engine are such that they are now effecting a saving of 50 per cent. in the consumption of coals, and that this alteration will pay itself in six months. The well-known productivness of Highburrow lode renders it unnecessary to particularise or dwell upon it here at much length; suffice it to say, that from very shallow levels to the 145, where its deepest workings are, it has been never failing; there are, however, some other lodes which hitherto have been but partially worked, others not opened on at all, which it is thought desirable you should have explained to you. There are several lodes, termed middle lodes, laying between the Tincroft and Highburrow lodes; the first of these is Chappell's lode, which, in the adjoining mine, is in the course of partial working to the extent of their means to develope it, at and above the 180 fm. level. In the 180 it is 60 feet, or 10 fathoms wide; this lode, in our mine, has not been seen below the 100 fm. level, to which level the shaft has been sunk, but little or no further work done in driving; about this depth only it began to be rich in the adjoining mine, where, from the 100 to the 180 it has turned out an enormous quantity of tin, and the deeper they have gone the better the lode gets; there is not any doubt but this lode is equally good in this mine; it is consequently being worked with all the force which can be applied to it. Advices have been received which state that our expectations in reference to this lode are beginning to be realised. The 90 end east being in a fine lode, which will yield a ton of tin to a fathom, with appearances of great improvement, and expressing a conviction that this lode will, when developed, yield an enormous return; not the slightest difference of character can be detected in the lode in this and the adjoining mine, where, in the 180, it so large and rich. Blight's shaft, which is being sunk to the 180 fm. level, will command this lode, as also Duncan's lode, to which, by-and-bye, reference will be made. North Tincroft lode, in the 90 fm. level, gives promise of yielding rich copper ores in great abundance. A cross-cut in the 142 fm. level, from Martin's east shaft, south, is being driven to cut Duncan's lode, and having attained this object (of great importance), will be continued on to intersect Chappell's lode, and thereby drain to that (the 142 fm. level) part of the mine, thus leaving free to work 50 fathoms of backs throughout the extent of the mine on Chappell's lode, and no less than 60 fathoms of backs on Duncan's lode. We are assured and believe that this, Duncan's lode, when intersected by the cross-cut going out at the 142 fm. level, will discover an immense amount of tin, and perhaps copper ore; this may take some time to effect, but, in driving this cross-cut we shall, we are pretty confident, cut another copper lode before we reach Duncan's lode. We have been informed that in the adjoining mine the same, Duncan's lodes, was at one time worth 500*l.* per fm.—it is a great master lode. In sinking Blight's shaft, which has been already stated will command both Chappell's and Duncan's lodes in depth, we have cut a beautiful lode, with rich copper ore in it. Another important feature should be brought to your notice, which is the lode in the north-western part of the property, at what is termed Stainsby's shaft, where the operations have been from time to time greatly impeded by the surface water in the shaft; and having no available machinery there, great delay has been the result, added to which, the miners have had also to contend with a hard bar of ground; however, through the kind offices of our neighbours at East Wheal Crofty Mine, we have been allowed to extend the 24 fm. level they had driven; we are now driving on the lode in our own right, and you will be pleased to know it is of considerable value. Capt. Floyd estimates it at 30*l.* per fathom. In asubsequent letter it is thus reported on:—"I am much pleased to inform you that we have now a fine course of ore worth near 40*l.* per fm., in the 24 fm. level, at Stainsby's." We need not tell you that this state of things makes it very desirable we should, with the least delay possible, see this lode in the 36 fm. level, where it has been driven within 3 fms. of the boundary by our neighbours; and, should they be induced to extend their favour so as to permit our taking up and driving their 36 fm. level into our own grounds, we shall shortly be in a position to make considerable returns of copper ores of superior quality. In the mean time, every exertion will be made to sink Stainsby's shaft, so as not to intrude upon their kindness longer than absolutely necessary. It is important that this lode is underlying south, and the dip of the ore is evidently west. It is desirable, perhaps, for the information of absent proprietors, and those not conversant with accounts, to state shortly our position. At the last meeting we were in debt to the amount of 210*l.* 14s., we now show a balance in favour of the mine of 946*l.* 1s. 8d.; that during the 3 months an extra expenditure of about 1200*l.* has been made in permanent works, and which will not have to be expended for some time, if at all. These embrace, new additional dressing floors, 350*l.*; stamps' engine, &c., 550*l.*; the north engine new boiler, 300*l.*=1200*l.*, which sums has been charged to the earnings of the past three months, embraced by the accounts now submitted to you. It may be necessary to inform you that these are not likely for some time to come to recur again, some of them never; as, for instance, the dressing floors in the first place, or the stamps' engine expenses; while, as to the new boiler, it is only for us to mention that the one disabled has been constantly at work for upwards of 10 years. Were we permitted to count upon this extraordinary expenditure, of 1200*l.*—add the balance now in hand, add also the debtor balance at the last meeting of 2360*l.*, would show the working profit for the three months ending with January last. The profits for the month of January you will observe is 860*l.*; we have reason to expect it will be the same for Feb. and March; and when all the ores have been sold they will be able to declare to you a dividend. There is no doubt that the mine is now in a position far superior than it ever previously occupied, whether you look to the efficiency of the great amount of machinery, the dressing department, all surface arrangements and erections, or to the still more important state of the mine itself, so fully and satisfactorily described in the report of the managing agent, which will presently be read to you. Most of you have been more or less interested in mines for some years; we will merely call on your experience in order to satisfy yourselves that, although our present position and prospects are equal to those of almost any mine in Cornwall, yet we cannot, as it were, at once fully avail ourselves of all our important discoveries. You will reasonably wish to be informed relative to the Union Tin Smelting Company—what progress has been made to consummate this long wished for, and most desired object. The directors beg to inform you that the shareholders in this mine have almost to a man applied for every share they are entitled to (3000), the major part for twice their number, and in many instances very far exceeding this proportion. The directors take this, the earliest opportunity, to state that having but 3000 to distribute, they regret they can only apportion 1 to every 2 shares in the mine.

From the statement of accounts, the balance-sheet for the three months, Nov. and Dec., 1848, and January, 1849, was as follows—viz.:

Dr.—Balance last account				£ 210	14 0
Costs, Nov., 1848	£2109	18	7		
„ Dec. „	2360	12	9		
„ Jan., 1849	2413	1	1—6883	12	5
Interest and discount				9	13 6
London expenses	£128	0	9		
Auditor	4	4	0 - 132	4	9
Balance to credit next account				946	1 8
Total			£8182	6	4
Cr.—Copper ores sold, Nov. 1848	£ 951	8	10		
Tin ditto	1371	17	1		
Arsenic ditto	65	10	10—2388	16	9
Copper ores sold, Dec., 1848	£ 863	14	5		
Tin ditto	1586	9	3		
Arsenic ditto	66	18	8—2517	2	4
Copper ores sold Jan., 1849	£1557	8	9		
Tin ditto	1718	18	6—3276	7	3
Total			£8182	6	4
Creditor balance			£946	1	8

The report of the directors was received with much satisfaction, and, in reply to questions by Mr. Fisher, the CHAIRMAN stated that there was every probability that the successful results of the operations at the mine would enable the directors to pay a dividend of 5 per cent. on the capital of the company, in two or three months.—This announcement, with the other proceedings, gave the utmost satisfaction to all present.

The following report from the principal agent, Capt. P. Floyd, dated April 3, was then read:—

I beg to hand you the following report on these mines. The detailed statements furnished you fortnightly of the several levels and general workings, leave me little that is new to report upon; I have great satisfaction, however, in stating that my expectations of continued improvement in my report presented to the last general meeting of adventurers are being fully realised, for every fathom of ground opened since that period has proved more productive than that preceding it. My attention has been much directed to improving the surface operations of the mine, whereby not only a considerable saving in the dressing department will be effected, but also large additional, and much required, facilities for returning the increased and increasing quantities of tin and copper ores from the mines. These works principally comprise the putting in an entirely new bed to the stamps' engine, of about 90 tons of granite blocks, new brasses to the principal bearings of the engine, and axles and sundry new gear to same, the addition of 16-heads and substitution of iron for wooden lifters to the stamps. These alterations have reduced the consumption of coals 50 per cent.—the quantity previously burnt by this engine was 6 tons daily, and now 3 tons are ample, and the work much more efficiently done; a large range of dressing apparatus and floors have also been formed in the place where whole mountains of deads, or refuse, had been suffered to accumulate, and almost choke up the buddles, slime pits, and dressing floors attached to the stamps. By these improvements we shall now be enabled to return 40 tons of tin monthly, or double the quantity which was, or could possibly have been, returned under the difficulties which have now been removed. Taking in review the underground operations on the several lodes, they may be represented as follows:—East Pool Lode (Stainsby's): Through the good neighbourly feeling of the managing agent of the East Wheal Crofty, we have been allowed to drive from their mine on this lode in the 24 fm. level, and we have now entered on our own right about 3 ft., and have a fine lode, worth 30*l.* per fm., with every indication of further improvement as we advance; and as the ore is dipping west, and underlying south, we may calculate pretty certainly of raising large quantities of copper ore on this lode.—D. ...n's lode: Blight's shaft, on this lode, is now sinking below the 90 fm. level, and in about 6 fms. more sinking, we anticipate falling in with the point of junction of this and the south lode, where there is little doubt of our having a large bunch of copper ores. At this junction, and for 80 fms. below, in the adjoining mine (Cook's Kitchen), the profits realised were enormous.—South Lode: At Chappell's shaft, sinking on this lode, below the 72 fathom level, the lode is worth 9*l.* per fathom. This shaft, when communicated with, the 82 fm. level, partially worked some years ago, by means of a cross-cut from Blight's shaft, will enable us to explore the lode, which is of a highly promising character.—North Tincroft Lode: The deepest level on this lode is 100 fms., at which level we are driving both east and west; we have not driven far enough on either to bring us under the run of ore ground in the levels above, but both these ends are already productive; the eastern end is worth 9*l.* per fm, and the western about the same, and both improving considerably, and beyond our expectations, as we proceed—a sure proof that the lode is increasing in size and quality in depth. This lode has already, as you are aware, produced large quantities of copper ore, and I am fully confident much more will be raised from it in the deeper levels.—Highburrow Lode: In the 152 fm. level, east of engine-shaft, the lode is worth 8*l.* per fm. In the 142 fm. level the lode is worth 12*l.* per fm. In the 132 fm. level it is worth 22*l.* per fm., and the western end of this level 12*l.* per fm. The stopes in the back of the 142 fm. level, east and west of the shaft, are worth 14*l.* per fm., and the stopes in the back of the 132 fm. level are worth 16*l.* per fm.; this is a truly valuable lode, averaging nearly 6 ft. wide, and on which we have laid open a large amount of tin ground—as much, in fact, as will require several years to take away with all the force we could put upon it; this I mean irrespective of further exploration. In the 100 fathom level, on Chappell's lode, west of downright shaft, the lode is worth 6*l.* per fm. The 90 fm. level west is worth 18*l.* per fm. In a winze sinking below this level the lode is worth 15*l.* per fm.; and in a winze sinking below the 80 fm. level it is worth 12*l.* per fathom. This latter winze is now communicated with the 90 fm. level, and we shall at once put men to stope east and west of the same, whence large quantities of tinstuff will be returned. This lode, in the 90 fm. level, is now upwards of 15 ft. wide; and, from the frequent appearance of large and rich slabs of grey copper found in it, intermixed with the tin ground, there cannot be a question but that, in depth, we shall have a fine course of ore. Of Druid lode, and the intermediate lodes, on the extensive run of ground south of Blight's shaft, but little can yet be said; we are pushing on our workings for exploring them, but some time must yet elapse before they can be sufficiently developed to make much returns. I would observe, however, that my opinion is unchanged as to the high value of this ground. In conclusion, I beg to say that, having now acquired an intimate knowledge of these mines, and also of the surrounding district, I can say with confidence that our prospects of a permanently profitable concern exceed those of any of the numerous mines I have ever inspected.

In reply to a question from Mr. James, whether the monthly returns had not increased, and the expenses diminished, the CHAIRMAN said, that the returns had certainly increased; but they could not say the expenses had decreased—in fact, what they wanted was large returns, and the more men they put to work, the more they obtained; the *profits* had gradually increased, and he had no doubt they should have the pleasure of declaring a dividend in about two months.

Mr. JOHN FIELD, in moving the adoption of the report and accounts, said, he had never been in that room on any occasion when he had heard such good news as at the present time. It gave him the more satisfaction, too, because he believed it to be founded on the absolute position of the mine; and that they might now consider themselves in possession of a permanently valuable property. He remembered an observation made on one occasion by Captain Pyke, that the youngest shareholder in the Tincroft Mine, if he lived until his grey hairs turned white, or until he had no hair at all, would not outlive the continuous improvement of this valuable property.—The report and accounts were then unanimously adopted, and ordered to be entered on the minutes.—In the course of the conversation which ensued, it appeared that there were 164 men and 9 boys on tutwork, and 170 on tribute; and as the general custom, and what is considered legitimate mining in Cornwall, is to have double the number of tributers, as compared with tutworkers, the shareholders need not fear that the "eyes" were being picked out. In fact, Mr. Stainsby stated that, while at the meeting which took place three months since, they had 60,000*l.* worth of ore in sight. They now had much nigher 100,000*l.*; they laid open much more ore ground than they were taking away.

In answer to a casual reply as to the new smelting works, the CHAIRMAN said, the shares certainly were not yet issued, nor would they be until the deeds were complete; the ground, however, had been taken, the furnaces built, and all the necessary buildings and erections completed. He thought they should commence operations about May.—Some conversation ensued on the subject of quarterly meetings, which was, however, left with the directors—the CHAIRMAN intimating that the shareholders would most likely be called together in six months.—Votes of thanks were then passed to the chairman and directors, as also to Capt. Floyd and the other agents, and the meeting separated.

[At the conclusion of the meeting, Mr. Stainsby, seeing a number of the proprietors of the Tamar Mine present, said he would take that opportunity of mentioning, that he had just received a letter from Mr. Johnson, stating that the profits of the Tamar Mine for the month would not be less than 600*l.*]

DRAKE WALLS MINING COMPANY.

The annual general meeting of this company was held at the offices, Finsbury-square, on Thursday, the 12th inst.

PETER STAINSBY, Esq., in the chair.

The circular convening the meeting having been read, the following report was submitted:—

DIRECTORS' REPORT.

At the last general meeting, we had to lament the excessive depreciation in the price of tin ore; and during the past year it has continued equally, and for some months even worse, than in the early part of the year—so much so, that many mines were compelled to close. Such being the position generally of the tin mines, we have some reason to congratulate you on the position maintained by this mine; for here we have, at a moderate outlay only above the returns for ores sold, being able to place the mine in a thoroughly sound and substantial position, equal to double the quantity of tin monthly over the corresponding months of last year. Brenton's engine-shaft has been sunk 20 fms.; the machine shaft has been sunk 21½ fms.; the new engine-shaft has been sunk 10 fms.; the mine has been, consequently, sunk during the past year, in these three shafts, upwards of 50 fms.; levels have been driven to the extent of 100 fms.—thus opening a large extent of valuable ore ground. The ground stoped during the year is to the extent of pretty nearly 880 fms., and has produced 211 tons of marketable tin ore—the proceeds of which amount to 7670*l.*; the prices obtained for this ore are most remarkable. Taking the first, the seventh, and the twelfth months, they stand thus:—In January, 36*l.* 9s. 0d. per ton average; July, 26*l.* 16s. 6d.; December, 46*l.* 6s. Further comment on these prices is unnecessary, although the price of ore in July was truly wretched; yet even then our advices from the mine runs thus:—"This mine is looking well, and, with a very little better price for tin, would pay well." The ore produced 62·7 of good metallic tin; such result as this was calculated to direct our attention to the only remedy open to us. You are aware it is fixed that we adopt that remedy; and guided by our friend, Mr. Johnson, we see no reason to doubt the result, more especially as regards the ore of this mine—the samples of which, monthly, he has tested with his usual care and attention. It may be well here to mention, that all the interest set apart in the smelting company for this mine, has been taken up by the shareholders, who are entitled to the shares—thus evincing a confidence equal to that of the directors in the well-grounded expectations generaly entertained of the establishment, which, we are pleased to tell you, is in a forward state, and will in this month be pretty well completed, so far as the buildings are concerned. During the past year, the workings of the mine have been carried on by sinking Brenton's machine and the new engine shafts, and extending the levels therefrom, and stoping the branches below them. The ground has been found to be subject to the usual variations in the quantity of tin; but, on the whole, has been much the same in quality in the same levels; but with this important and favourable exception, that there has been found to be a gradual improvement of the lodes in depth, and that the deepest parts of the mine are in each level the best. This circumstance is most important, and a great encouragement to sink the shafts with all speed, consistent with economy. An additional steam-engine was erected, and completed about the end of March last year, on the eastern part of the mine, with the view of giving trial to a very extensive piece of ground in that direction, on which considerable workings had been made by the ancients; but on which nothing had been done by them below the adit; we sunk this new engine-shaft 10 fms.—one end has been driven east, and another end west on the lode, about 6 fms. each. About the end of June the price of tin ore had gone down to so low a point, as to induce us to suspend this part of the mine.

Since the advance in the price of tin, the working of this ground, which is very extensive, has been successfully resumed; the same cause which led to the suspension of the eastern part of the mine operated also as a cause for some trifling curtailment of the workings in the western part of the mine, and particularly the suspension of the footway shaft to the 33 fm. level, from which we have sustained some little temporary inconvenience. This shaft is henceforth likely to become one of our principal drawing shafts, and we may here mention that it is now communicated to the 33 fm. level, and, in a short time, will be fit for use as a drawing shaft in that part of the mine, much needed, where an immense quantity of tin ore is waiting to be drawn to the surface. A statement is laid on the table, which will show the quantity of work done within the past year in sinking, driving, and stoping, which has been already referred to in this report, showing 1028 fms. 2 ft. 9 in. A further statement will show the monthly cost and the monthly sales of ore opposite each month respectively, as taken from the books at the mine, as also the quantity of tin sold. In reference to the latter statement, it is proper to mention, in explanation of the 600*l.* called loss on the year, a considerable amount of cash is included in the account for the new steam-engine referred to, and other new works, which cannot be set down at less than 3000*l.*, and bearing also in mind, that in addition to this extra expenditure, which, for the year, was unavailable, in consequence of our determination rather to let it lay idle than be employed to extract ores, which we feared we should have to dispose of at an immense sacrifice. We also, on the ordinary and original workings of the mine, had to contend for nine months, at least, out of the twelve with low prices for tin—perhaps, without a parallel. It is evident that, but for this expenditure in the new works, the mine would have left us a profit, even at the wretched market we took our produce to, of nearly 2400*l.* Happily the price of tin has risen, and the smelters are, for some cause or other, induced to give us a better price for our ores, and happily this mine is in a position to avail itself of the improved market with much larger quantities, the mine now being carried on in a more vigorous manner; and if the present price of tin be maintained, we may safely promise that the results of the present year will be much more satisfactory than that just past.

Capt. Williams, under date of the 12th February, wrote thus—"You have now a great quantity of ground laid open, and in about two months you will communicate the footway shaft, when there will be no difficulty in returning 30 tons of tin ore per month." Hitherto both in the former partial workings, and as by the present proprietors the operations have been confined to our lode, which having now been satisfactorily developed and proved to be more and more productive at each succeeding level, we are relieved of all anxiety as to its importance as a valuable source of profit, and have but to continue the regular course of work upon it at the various points now in operation, and, as circumstances warrant, enlarge them. We are, however, aware, and it is our wish that you should also be well informed, that the mining ground in grant to the company is very extensive, and embraces many other known lodes of great promise; it is our intention to cross-cut to some of those without delay. This operation can now be undertaken with every prospect of advantage; is is strongly recommended by the agents, whose reports will be read to you. The cross-cut proposed to be driven will be in the 40 fm. level to cut the south lodes; the advantage of driving this at a deep level will be apparent to you—first as to the certainty, judging by the parallel lode to which our entire workings have been confined, that the deeper we go the larger and better the lode gets; next, that it is important if, when the lodes are cut, they should be found, as expected, productive, to have what is termed good backs, which in this case would be, from the level to the adit, 40 fms. of backs. You will, however, judge this and other matters better after hearing the reports of Capt. Floyd and Capt. Lean read; the former is managing agent at the Tincroft Mines, who, at our request and with Mr. Johnson, thoroughly inspected the mine, and, after giving it, in all its bearings, the most thorough consideration, at the conclusion of his report says:—"I have no doubt, if these suggestions are acted upon, that the mine will prove a valuable and lasting one; but twelve months must elapse before it can be brought into a position to give a profit of between 400*l.* and 500*l.* per month." A subsequent report states that, after consultation with the agents respecting the future operations, which we all agree must be on an extended scale, then there can be no doubt the mine will prove a very lasting and profitable one.

The accounts for the past year will now be read to you—viz.:

EXPENDITURE.				RECEIPTS.			
To balance last account	£2,170	19	8	Tin from Jan. to Dec., 1848	£7,670	18	2
Cost from Jan. to Dec., 1848	8,268	0	6	Instalments	2,507	0	0
Disbursements	63	10	11				
					£10,177	18	2
	£10,502	11	0	Balance	324	12	11

Drake Walls, Feb. 12.—I beg to send you my last report of the mine. The stopes at Brenton's are much improved since my last; the branches are more concentrated; they now form a lode from 2 feet to 2 feet 6 inches wide, producing good work, and free from wolfram. At Machine shaft, there are good branches; the stopes, east of ditto, below the 40 and 50, are looking well. The stopes and end, in the 33, now under the footway shaft, are producing good work; in the footway shaft, sinking below the 14 fm. level, there are excellent branches. At the new engine-shaft, the ends and stopes are producing saving work. We purpose sampling on Thursday next, 20 tons of tin, and shall leave at least up to that time 50 fms. of broken tinstuff underground, which will produce at least 12½ tons of tin, which should have been in this and the last sampling, but for the hindrance which took place in our drawing, over which I had no control until it was too late to remedy it for the past and present sampling. You have now a great quantity of ground laid open, and in two months you will communicate the footway shaft, when there will be no difficulty in returning 30 tons of tin per month.—R. WILLIAMS.

Tincroft, March 15.—According to your request, I have carefully inspected the Drake Walls Tin Mine, and herewith beg to hand you my report. In my careful examination of the stopes, I find them to be, on an average, worth about 3 cwts. of tin per fathom; but the best stopes appear to be in the bottom of the mine. On this ground I would urge the sinking of all the shafts, and driving the levels east and west, also sinking winzes from one level to another, and stoping the backs instead of the bottoms, as is being done at present. I would also recommend the extending of the 60 and 40 fathom levels west, likewise the driving of a cross-cut south at the 40 fm. level, to intersect the south lodes. In the eastern part of the sett, some costean pits were kindly shown me by Mr. Johnson, in which three lodes were cut, one of which is a very promising one, containing good work for tin; on this lode two men have been put to drive west—the tin will half pay for driving. I consider that improvement may be made at surface, as connected with dressing tin; and touching the stuff broken, half of it should be left underground. I have no doubt, if these suggestions are acted upon, that the mine will prove a valuable and lasting one; but 12 months at least must elapse before it can be brought into a position so as to give the adventurers a profit of between 400*l.* or 500*l.* monthly—that is, at the present price of tin.—PETER FLOYD.

Drake Walls, April 9.—In presenting you with my report of the above mine, I beg to say that Brenton's shaft is sunk to the 60 fm. level. The stopes below the 50 fm. level, east of this shaft, is producing good work for tin. The machine shaft is also sunk to the 60 fm. level, but is suspended for the present, and the men put to drive east and west from the shaft; these levels are producing a little tin, but we have not as yet cut into the main branches on the south part of the lode. The stope east of this shaft, below the 50 fm. level, is tinny; the stope east of the same shaft is producing good work for tin; the 50 fm. level, east of the said shaft, is at present disordered by a cross-course, which is seen in the level above; the stope below the 40 fm. level, east of the said shaft, is at present poor. The footway shaft is communicated with the 33 fm. level; here we have a stope of tinny ground to take down to make the shaft complete to the above-named level, which will take about five weeks before we can draw with the whim; the 33 fm. level, east of this, is also producing tolerable good work. We let, on Saturday last, the tin level to drive east of the said shaft; here there is a little tin, but not of much value at present. The engine-shaft is sunk below the adit level 10 fms., and the stopes and end east of this shaft are suspended, in consequence of being poor; the level west of said shaft has been driven through a cross-course, and is also suspended, being poor; the stope below this level, west of the shaft, is producing a little tin. We let, on Saturday last, the shaft, to sink below the 10 fm. level. In costeaning on the eastern part of the sett, seven branches have been discovered, five of which produce tin. To the east of this we have discovered some old workings; it appears there is a level driven under the hill, but how far we cannot ascertain before the stuff is cleared. We have met with some good stones of tin in course of clearing the stuff. On Saturday last we set the sumpmen a bargain, to make the necessary preparations for sinking Brenton's engine-shaft, below the 60 fm. level. I beg to recommend the sinking of all the shafts, and the driving of levels, in order to lay open ground to work the mine more extensively. I think there is every encouragement for sinking the mine to a greater depth, as the stopes, generally, in the bottom of the mine are more productive, and of a more promising character, than those in the upper part of the mine. I beg also to recommend the driving of a level west from Brenton's shaft in the 60 fathom level. I see no reason why tin might not be found in this improved ground. I beg also to urge the sinking of the new engine-shaft to the 33 fm. level, and to communicate it to the 33 fm level, now driving east of the footway shaft. By so doing, I think we shall lay open a productive piece of ground for 60 fms. in length. I would also recommend to drive an adit level west from near the Tamer River, and to cross-cut north and south from the said level, to intersect the different branches seen at the surface. To carry out the above suggestions 18 months must elapse, at least, before the mine can be brought into a position to give the adventurers a fair profit.—JOHN LEAN.

Ward, April 9.—I have little too add to the observation that will be made by Mr. Matthews, and the agents reporting the operations and prospects of this mine, except that I consider, by vigorous and extended operations, it is likely to prove a lasting and profitable mine. The prosecution of some of these branches in the eastern part will not only develope the mine at this eastern extremity, but eventually be a saving in working the lode where these branches unite. In the western part, every attention is being paid to the dressing department, on much which depends as to the profitable results; and the price obtained for the black tin, in comparison to that of former times, will show the advantage on this head. The heavy expenses, as you are aware, for machinery, &c., are concluded, and I shall feel disappointed if we do not obtain profitable results for the future, although it is, and has been, a mine that requires being worked spiritedly—that is to say, on a large scale. Should the price of tin remain as it is now, there is no doubt Drake Walls will prove a steady and profitable mine.—P. N. JOHNSON.

Union Tin Smelting Company, Beeralston, April 10.—I spent part of yesterday at Drake Walls, and had a consultation with the agents respecting future operations, which we all agree must be on an extensive scale, when there can be no doubt the mine will prove a very lasting and profitable one. I spend Thursday next there, and go on to Callington, having some property to see for Lord Ashburton on Friday. I shall be here Saturday, Sunday, and Monday, and in London on Wednesday.—P. N. JOHNSON.

The CHAIRMAN, in answer to questions by Mr. Smith, and in explanation of the accounts, stated, that they were made up to end of December, and showed a small debtor balance of 320*l.* The returns of tin had increased, in many months being equivalent to the cost.

Mr. SMITH felt much pleased with the report of the directors, which he hoped would be realised by the results.—The CHAIRMAN thought the statements made would be fully confirmed by their future operations; and explained, in answer to Mr. Plumptre, that the 500*l.* per month profit, referred to in the agents' reports, was not expected under a period of 12 months; it did not, however, follow that no profit would be realised during that period—on the contrary, it was more than probable that profit would be made, and such would, of course, enable the company to prosecute their operations with expedition and success.

The CHAIRMAN stated, in answer to questions as to further capital, that a call, if made, would, of course, expedite the payment of dividends; he held a very large interest, and should not object to pay a call, if it would render the mine's position more propitious. They had a very valuable property, and with the able assistance of Mr. Johnson, it would be brought to a profitable position. Active operations were being carried forward; 102 men were employed in underground workings, and the extent of ground opened during the past year was 1028, which had opened large resources of tin ground.

Mr. PLUMPTRE quite coincided with the recommendation of the directors and agents, for vigorous workings; but would, with every confidence, leave that matter in the directors' hands.

The CHAIRMAN explained the relative position of this property and other mines, referring to a plan, and the explanations offered afforded evident satisfaction to those present.—A vote of thanks to the chairman and directors, as also to Capt. Floyd, having been passed, the meeting separated.

[For continuation of "Meetings of Mining Companies," see page 177-8.]

NEWALL'S PATENT INDIA-RUBBER SPRINGS FOR RIGGING.—A patent has been secured by Mr. Newall, the wire-rope manufacturer, for a new description of spring, intended for the purpose of forming an elastic support from the ship's side, for setting up the rigging. It consists of a long box, formed of iron plates, being square in the inside, into which are inserted square blocks of India-rubber, having between them thin plates of sheet-iron. There is a regulating screw by which the rigging can be strained to any degree of tightness, and whatever strain is imposed on the rigging afterwards from winds, lurching of the vessel, or other cause, the India-rubber spring, by its reaction, pulls the rope in its place, when the strain is removed.

THE ELECTRIC TELEGRAPH—NEWSPAPER ENTERPRISE.—So constantly is the electric telegraph in requisition for the purposes of the press on the other side of the Atlantic, that one of the New York papers is about to have an "independent" track of telegraph constructed for its own exclusive use from New York to Washington and Boston. The eastern route will be 245 miles, and the southern 225 miles.

THE WORTHING MINING COMPANY,

NEAR ADELAIDE, SOUTH AUSTRALIA.

(Provisionally Registered, pursuant to 7th and 8th Vic., cap. 110.)

Capital £100,000, in 10,000 shares, of £10 each.—Deposit £2 per share.

PROVISIONAL DIRECTORS.

DAVID HALKET, Esq., 19, St. Helen's-place, Bishopsgate-street.
RICHARD HALLETT, jun., Esq., Woodford, Essex.
GEORGE EDMUND HODGKINSON, Esq., 74, Cornhill.
FRANCIS PEGLER, Esq., 46, Lime-street.
HENRY RENDELL WOLTON, Esq., 32, Fitzroy-square.

TRUSTEES.

RICHARD HALLETT, jun., Esq.
GEORGE EDMUND HODGKINSON, Esq.
FREDERICK MILDRED, Esq. 36

AUDITORS—John Carter, Esq.; Cyrus Legg, Esq.

AGENTS IN AUSTRALIA—C. Beck, Esq., Charman of the Burra Burra Mine; J. Hallett, Esq., Arno Vale, near Adelaide; A. Hallett, Esq., Worthing, near Adelaide.

BANKERS—Messrs. Masterman, Peters, Mildred, & Co.

SOLICITOR—George Carew, Esq., No. 22, Lincoln's-inn-fields.

SECRETARY—Mr. John Watson.

OFFICES—No. 76, CORNHILL.

This company is formed for the purpose of working a tract of about 800 acres of valuable mineral land in South Australia, known by the name of Worthing, situate about 16 miles south of the city of Adelaide, directly on the sea coast, with a natural creek, at the entrance of which craft can lode, and only 6 miles from Glenelg, where vessels of large burden discharge their cargoes; ores can, therefore, be shipped at an expense of only a few shillings per ton, thus affording a manifest and most important advantage in the cost of carriage.

Good copper ores having been found on the property, the proprietors were induced to send samples to England, and in 1847 a private association of 10 individuals was formed, who subscribed £1000 for the purpose of proving the mines, with the option of purchasing two-thirds of the property, the proprietors stipulating for a reservation of the remaining one-third. A mining captain, and five working miners were accordingly sent out, and the result was, that within 12 months of their arrival in Australia (and long before the expiration of the time allowed to the promoters to determine as to the purchase of the property), proof having been obtained of the existence of large and well-defined lodes of copper, the promoters decided to complete the purchase according to the terms of the agreement, and having since arranged for the purchase of the remaining third on advantageous terms, they now propose to form a company for the purpose of working the mines effectually, in the fullest confidence that the property will prove very valuable.

It is proposed to create 10,000 shares of £10 each, on 7000 of which a deposit of £2 per share shall be paid on complete registration of the company, the remainder to be appropriated, free of all payment, by way of deposit or otherwise, in the following manner—viz.: 1000 to the vendors of the estate, and 2000 to the 10 purchasers, who are also the promoters of the company, which they agree to receive as full compensation for the risk and trouble incurred in proving the mineral properties of the land.

The amount of the deposit will, after providing for the purchase of the whole of the property, the actual expense already incurred in proving it, and incidental expenses in forming the company, leave about £5000 working capital, and the mines having been already so far developed, it is not expected that more than this sum will be required to make them remunerative.

The property is an original grant from the Crown, and free of any claim for Royalties.

The reports of the mining captain, Mr. John Phillips, will be found explicit in practical detail, and the promoters have reason to believe that they do not at all exceed the real prospects of the mines, of which several competent authorities in the colony have given the most favourable opinions; and Mr. Alfred Phillips, the Australian Mining Company's captain, states:—"The lode at the Worthing is fully equal in size to any at the Reedy Creek" (Tungkillo Mine). On this gentleman's opinion, in addition to that of their own mining captain, the promoters, from their knowledge of his great caution, strict integrity, and practical knowledge, place the utmost reliance.

More than one ton of ore, collected from the different workings, the assays of which yield an average about 30 per cent. of copper, may be seen at the company's offices, 74, Cornhill, where the mining captain's reports and plans of the property are open for inspection. The proximity of the land to the city of Adelaide will enhance its value yearly in cultivation, and it has a farm-house and other buildings upon it.

With a view to an identity of interests, and in order to render official remuneration contingent on the success of the undertaking, the directors (whose qualification will be the continued holding, by each, of not less than 100 shares) and the agents in Australia will not receive any salary until a dividend or dividends, amounting together to £5 per cent. on the paid capital, shall have been divided amongst the shareholders (the 3000 shares appropriated, as before-mentioned, for the purpose of dividends, being considered as paid up to the same extent as the other shares).

The erection of smelting works now in progress in the colony, will increase considerably the value of mining properties there.

The affairs of the Company will be conducted by not less than five, nor more than ten directors in England (aided by agents in the colony), under a Deed of Settlement registered according to the provisions of the Act recently passed for regulating joint-stock companies, with liberty, if requisite, to apply for an Act of Parliament; and a general meeting of the shareholders will be held once a year, when a balance-sheet, and a statement of the Company's concerns will be produced for inspection.

Power will be taken in the deed to purchase or work on Royalty or other mineral land, and to increase the capital, should it hereafter be deemed advisable.

Not more than £1 per share will be called at any one time, of which three months' notice will be given, with an interval of not less than three months between each call.

Numerous applications for shares having been made on behalf of parties resident in the colony, the promoters think it right to state, that in the allotment of shares due provision will be made for the same.

THE WORTHING MINING COMPANY,

No. 76, CORNHILL, LONDON.

The provisional directors of this company hereby give Notice, that NO APPLICATIONS for SHARES will BE RECEIVED after MONDAY, the 16th inst., and that the allotment will take place on the Thursday following. By order,

April 5, 1849. (Signed) J. WATSON, Prov. Sec. 37

SOURTON CONSOLS MINE.

In 5000 shares, not to exceed £1 each (if required).

CONDUCTED ON THE COST-BOOK SYSTEM.

This MINE is situate in the parish of SOURTON, between Tavistock and Okehampton, and was, in 1845, taken up by a company, under lease of 21 years, and at a dues of 1-15th who worked it for some time; but, from improper management of their affairs, they became involved in debt, and the sett and materials, &c., were recently sold to clear off the then remaining liabilities.

The lode is a regular one, running a little north of west and south of east, as is usually the case with the copper veins of the neighbourhood, such as in the Great Wh. Friendship Mine, &c., and is has been cut in a pit on the back, and also in a shaft 10 fathoms deep—in each of which is a most kindly gossan, averaging 9 feet wide, and bearing a strong similarity to the gossan of the Devon Great Consols, and spots of copper have been seen in it, but at so shallow a level no discovery of importance can reasonably be expected.

The sett on course of the lode is about a mile in length, and to the west is Wheal Sarah, in the same lode, which produces grey copper ore, mixed with silver. To the east, about a mile, the granite commences; and there are other known lodes within the sett, which is altogether an extensive one, and which can easily be rendered more so on very moderate terms, by the indispensable addition of a sett to the north, in close contiguity with it. A reference, however, to Mr. Jehu Hitchins's subjoined report will give a better idea of the nature and capabilities of the sett, and whose recommendations it is proposed to carry out.

An engine-shaft has been sunk to a depth of 18 fathoms, at a distance north, calculated to cut the lode at 35 fathoms deep—the ground being a congenial blue killas, of an easy nature for working.

There is a sufficiency of water to work during most of the year; but, in case of necessity, an additional quantity can be brought in from the River Okement, on lease, at 1s. 6d. per diem, as long as it might be required; and the leats can be cleared up at a trifling expense.

The projectors of the proposed company having possessed themselves of the sett, together with the major part of the machinery and materials, comprising a new water-wheel of 40 feet diameter, and 2½ feet in breast, an excellent run of surface iron rods, 2 inches diameter, with pulleys and stands, travelling balances and shaft bobs, a whim and poppet heads, triangle, &c., 14 fathoms of 8-inch pumps and 7-inch workings, with windbore and clackdoor pieces, complete—altogether 19 fathoms, shaft, rods, &c.—offer the whole for £625, or 2s. 6d. per share, a sum greatly below their original cost.

The mine is held in much esteem in the neighbourhood, and a portion of the shares have already been applied for, but not of sufficient amount to defray the expenses of working it to the necessary extent; the present mode has, therefore, been adopted to obtain the co-operation of some influential London party.

All persons desirous of joining in this adventure are invited to send their own agents to inspect the mine.

As soon as three-quarters of the shares are allotted, a preliminary meeting will be held, for the purpose of settling the rules and appointing a committee of management, as well as other necessary agents.

A deposit of 5s. per share will be required to cover the cost of the sett, materials, &c., and to provide a fund for commencing the workings; and for the security of the subscribers, the same is to be paid to the credit of the company, into the bank of Messrs. Gill and Rundle, Tavistock, Devon, whose receipt shall entitle the holder to priority of entry in the cost-book. All surplus shall be returned, and no subscriber's liability shall extend beyond the £1 per share.

Every other particular can be obtained, and a list of the adventurers, together with plans of the mine, seen on application to Mr. George Trickett, sharebroker, Post-office Chambers, Plymouth; Mr. John Hitchins, mining agent, Tavistock; Mr. Jehu Ball, Okehampton; and Mr. T. P. Thomas, sharebroker, No. 3, George-yard, Lombard-street, London—to either of whom applications for shares are requested to be made.

Prospectuses may also be had at the office of the *Mining Journal*, 26, Fleet-street. 38

Plymouth, March 12, 1849.

SOURTON CONSOLS. Tavistock, March 13, 1849.

SIR,—Having at the desire of several of your shareholders carefully inspected the sett and workings of this adventure, with a view to submit my report thereon, I beg to state as follows:—

1. The back of the lode, as seen in the middle shaft sunk thereon, presents the most promising appearances for copper I have for a very long time seen, being in effect a similar large and kindly gossan to the back of the Devon Great Consols lode, as first discovered in Wheal Maria.

2. The lode is a regular one, from 9 feet upwards wide, running about east and west, and underlying north about 3 feet in a fathom, with good walls, analagous to and parallel with the Wheal Friendship Mine lode, and is in a congenial killas stratum, bordering on the granite formation, distant about a mile to the eastward; and copper ore has been met with in the adit of the adjoining sett of Wh. Sarah, to the west, on the same vein.

3. There has been considerable useful work done, besides commencing an engine-shaft to take the lode at 35 fathoms below the surface—in my opinion an eligible point—18 fms. of which are already sunk. The water-wheel, flat-rods, pumps, and other appliances now in the mine are in very good working order, and of sufficient power to drain the mine to a great depth. Should the preliminary trial I now advise of sinking the shaft to intersect the lode, and driving—say 50 to 80 fathoms each way—east and west thereon, induce a more extended working, this, together with providing the necessary additional materials, as well as to pay the value of the present machinery, can be accomplished for about £1000, and occupy in time about 16 months.

In conclusion, I strenuously submit, that on no account should this kindly undertaking be abandoned until the trial I have advised be made—the more especially as so much has already been done, and which, without a further trial, can only be regarded as money thrown away. I, therefore, hope soon to see a resumption of operations actively carried out, and I have no doubt but that they will be crowned with success.

I remain, Sir, your most obedient servant,

To G. Marshall, Esq., Plymouth. JEHU HITCHINS.

TEXAN AND SONORA GOLD MINING AND LOCATION COMPANY.

Capital £300,000, in 20,000 shares, of £10 each.—Deposit 1s., pursuant to 7 and 8 Vic., cap. 110.—Call £3 per share.

DIRECTORS.

GEORGE CATLIN, Esq., Waterloo-place.
HENRY HAYWARD, Esq., Chandos-street, Cavendish-square.
ARTHUR IKIN, Esq., Fulham, late Consul-General for Texas.
JOHN ROUTH, Esq., Jun., Harewood-square.
FRANCIS SALTONSTALL, Esq., North Bank, Regent's-park.

AUDITORS.

G. D. Moffitt, Esq., Chesapake; W. Boville Burrowes, Esq., St. Ann's-road, Notting-hill

SOLICITOR.

Thomas Marston, Esq., Carey-street, Lincoln's Inn.

SECRETARY—Mr. Robert Hooper. 39

TEMPORARY OFFICES OF THE COMPANY, 37, THREADNEEDLE-STREET.

PROSPECTUS.

The rush of emigrants from all parts of the world to California, will soon create a state of society there, not desirable to men of quiet dispositions, and especially to those having families. The immense deposits of gold will not afford sufficient inducements to countervail the evils which must result from the heterogeneous and lawless character of the population. The benefits, moreover, to be derived in California, now open to all, cannot be expected to last any longer than it will require the United States Government to take military possession of the country, when the lands, which mostly belong to the Government, will be sold or leased, at rates corresponding with the extent of competition, which it is reasonable to expect, will then be immense. The great distance of California from this country, and the expense, uncertainty, and risk, which would be likely to attend any enterprise to that region, have led to the enquiry whether there may not be mines of equal value much more accessible, the ownership of which might be obtained upon discovery, and which could be worked at less expense for supplies of provisions, and with greater facilities of market for the mineral.

Such mines are known to exist in the Province of Sonora, and it is confidently believed that they exist also in the territory of New Mexico, and in the western part of Texas, which is immediately adjacent to the latter district. The reasons for this conviction are:—

1. That the geological formation of the mountains extending into the western part of Texas, is of the same character with that of the mountains in Mexico, which are most rich in the precious metals; and with the Sierra Nevada mountains of California, from which the gold has been washed down into the valleys of the Sacramento and San Joachim rivers.

2. The Mexican records and monements furnish another evidence of the existence of valuable mines in Texas, especially in the valley of the Puerco. These records represent the Rio Puerco as being rich in the precious metals; and the ruins of an ancient city in that region, which must have been founded soon after the conquest of Mexico, form a lasting and significant monument of its mineral wealth. As it is well known that the Spaniards, in those days, made but few settlements in districts destitute of the precious metals, there is little doubt but that the sole object in building this city was to procure the gold and silver, which a tradition, still current among the Mexicans, represents were obtained to the amount of several millions of pounds, previous to the terrible insurrection of the Indians in 1680. In other places crow-bars and crucibles have been found by parties of Texans in their exploring expeditions.

3. The traditions among the Indians corroborate the testimony of the Mexicans. They state that gold and silver were formerly found in large quantities east of the Rio Grande, and there are many now living who say they can point out districts where these metals can be procured, and actually exhibit ornaments on their persons which they say were obtained by them from these very localities.

4. Recent discoveries have shown that gold mines exist in the neighbourhood of Santa Fé to a greater extent than has hetetofore been supposed, although this region has been known for a long time to be rich in mines, many of which have been worked for a number of years. Specimens of fine gold have also been found near the head waters of the San Saba, a branch of the Colorado River, of Texas, where there is a range of country abounding in quartz.

In addition to the gold mines, which are supposed to exist in some portions of Western Texas, of a very productive character, lead ore has been discovered, said to be equal in value to that of the galena mines of Illinois and Missouri. Copper has also been discovered near the head waters of the Brassos, of great purity; and it is well known that, under the Government of Spain, silver mines were wrought near the San Saba, and much confidence has been expressed that in that region silver is abundant. Most of the country within the limits of Texas, which is supposed to abound in mineral wealth, has, since the first occupation by the Spaniards, and their expulsion by the Indians, been exclusively in possession of the latter. Since the late Mexican war, however, the Indians have retired before the enterprising white settlers, who are pushing their settlements into those regions, and opening a safe ingress for those who wish to explore the country. A new route to California has recently been opened by a detachment of United States troops, on their march from Houston to that country, and it is now recommended as the most eligible route for the numerous emigrants who are removing to the valley of the Sacramento.

If the mines in Western Texas, New Mexico, and in Sonora, on the eastern range of the Rocky Mountains, prove, on exploitation, as rich as those in California, on the western range, which there can be no good reason to doubt may be the case, there will be manifold advantages in the eastern locality—three of which need only be mentioned. The first is the facility of obtaining supplies of provisions from an adjoining district well settled with agriculturists, and the vicinity to ports where trade and commerce are conducted under proper regulations. The second is the superior salubrity of the eastern locality over the western—the experience of the miners in California having proved that labour must there be suspended during a considerable portion of the year, on account of the fevers which prevail at certain seasons; and the third is, the certainty of being able to secure the title to lands containing valuable minerals through claims either located or floating in the hands of individuals, citizens of Texas, who have obtained them direct either from the Mexican or Texan Government.

TEXAS.—The unappropriated public lands in Texas do not belong to the United States Government, but are held by the state of Texas as a fund for the payment of the public debt, for the establishment of public schools, and for the internal improvement of the country. These lands are not at present for sale, and cannot, for a long time, be placed upon the market. In the meantime, the ownership of certain portions of these lands, now held by private individuals or companies, may be secured by procuring the floating claims heretofore granted to certain citizens of Texas by the Mexican and Texan Governments.

The purchase of such claims for 60,000 acres (which are convertible at will into patents for land in fee-simple) has been effected from a gentleman of the highest respectability, a resident of Texas, who is now in London; as also for the same quantity (60,000 acres) of located lands, well-selected and advantageously situated for agricultural purposes, in Milam County, between the rivers Colorado and Brassos, about 50 miles north-east of Austin, the seat of the Government of the State. The lands are undulating, and consist of prairie (meadows) and timber interspersed, of fertile quality and well watered. Austin is only 80 miles from Houston, which latter place is reached by steam vessels in eight hours from Galveston Bay, Gulf of Mexico.

SONORA.—Application will be made to the Mexican Government for a grant of land, on royalty or purchase, in the province of Sonora, so as to enable the company to extend their works hereafter to this valuable locality, where, from time immemorial, according to common report and tradition, it is stated that the richest gold deposits in the world exist, but which, until of recent years, have been almost inaccessible, in consequence of the hostility of the Indians.

CALIFORNIA.—Should it be found desirable to extend the mining operations hereafter to California, when that country shall be settled under a regular Government, the company will be prepared to avail itself of such favourable grants of mining localities, as may then be obtained from the Government of the United States, which has not yet the power to grant charters or other privileges, and would enjoy the superior advantage of their own settlements, already formed on the most direct and shortest route to California.

OBJECTS OF THE COMPANY.—The company is formed for the more energetic and beneficial carrying out of the advantages which the purchases do, and grants may, place at the disposal of the shareholders.

Before any locations are finally determined on with respect to the land scrip of 60,000 acres, it is proposed to examine the mineral districts of the State of Texas, and then to select the most advantageous positions for the full development of metallurgical operations. The company, therefore, intend, in the first instance, to send out a practical geologist, accompanied by an experienced mining captain, and a small body of miners, who, with some natives, shall examine and report on the different districts; and the gentleman from whom the land scrip is purchased has consented to meet the corps at Houston, and render all the assistance which his high position and character in Texas command. The company has likewise secured the active co-operation of an American gentleman, who is well known to the public in this country, as well as on the continent and in the United States, and who has consented to accompany the first party to Texas.

It is proposed to make use of his long knowledge of the Indian character, and of his influence with the native chiefs, to explore the localities from which they have collected the gold and silver with which they are in the habit of adorning their persons, and also of making such arrangements for trading with them as may be found desirable for carrying out the objects of the company. It is a well-known fact, that no person can trade with the native tribes without permission of the Government of the United States; and it is important, therefore, to mention that this company hold a Charter from the Government for this special purpose.

With reference to the located territory of 60,000 acres, it is proposed to make over to the shareholders the fee-simple deeds for such portions as they may subscribe for, to be subsequently divided into lots of not less than 40 acres.

Accompanying the mining detachment, or shortly afterwards, it is intended that a body of emigrants, with all the materials for successful colonization, shall proceed to lay the foundation of the first agricultural settlement, on a large scale, to be followed by other detachments of settlers in succession. Thus, agriculture and mining may be successfully cultivated in connection, to the signal advantage and profit of each branch of this great enterprize, in a country governed by good laws, a soil most productive, and a climate congenial to the full exercise of the powers of laboaring man. "The greater proportion of this beautiful region," says Kennedy, "which has obtained for Texas the name of the Italy of America, is blessed with a temperature, delightful to the senses, and favourable to life, and to most of the products that render life agreeable." The population of Texas is now above 200,000, and is rapidly increasing, in consequence of emigration from the older States of the American Union, as well as from Europe.

The same laws exist in Texas for the protection of personal liberty, as prevail in England, while all religious creeds are free; each congregation supporting its own minister and place of worship.

A glance at a map will show how well the before-mentioned territories are situated with respect to rapid and easy intercourse with this country, that it is the direct road to California, and that while five or six months are occupied in going round Cape Horn to San Francisco, a voyage of six weeks from England will place the passenger on the shores of Texas.

ADVANTAGES TO SHAREHOLDERS.

For the purchase of the located land of 60,000 acres, and the unlocated claims for 60,000 acres—making together 120,000 acres, the company have to pay to the proprietor, in money and shares, at the average rate of only 7s. per acre, thereby leaving a working capital amply sufficient for all purposes.

The unlocated claims will be retained for the benefit generally of the shareholders, but the located tracts will be divided into lots, according to subscriptions. The shareholders, in fact, will receive the deeds of the freehold of their proportion to be then dealt with as the means and views of the purchaser may determine, while he will still retain his share of the profit and benefits to be derived from the mining operations, and the disposal of the unlocated land scrips. The located lands being judiciously selected, even if not brought into cultivation, will, by the increase of population in the surrounding country, infallibly rise in value.

Shareholders who may wish to form settlements upon the located lands, will be recommended to agents at the port of debarkation, who will give all necessary information and advice to enable them to reach their destination by the most direct route; and agents of the company will likewise receive them on the located lands to put them into possession of their freeholds.

When the negociations with the Mexican Government shall be completed, a further issue of shares will be made for carrying on operations in Sonora, and the holders of shares in the present undertaking will have priority of subscription at par.

A Deed of Settlement will be prepared for the protection of all parties concerned, in compliance with the Act for the Registration of Joint Stock Companies, in which a clause will be inserted to prevent any other call than the one of £3 per share being made, until the further development of the plans of the company shall render it desirable and advantageous, and then only with the consent of a meeting of shareholders, specially summoned, and representing three-fourths of the whole number of shares.

Applications for shares made be made in the annexed form, addressed to the secretary, at the temporary offices of the company, No. 37, Threadneedle-street, or to the solicitor, Thomas Marston, Esq., 14, Carey-street, Lincoln's Inn, where prospectuses and every information may be obtained.

To the Directors of the Texan and Sonora Gold Mining and Location Company.

GENTLEMEN,—I request you will allot me ——— shares, of £10 each, in the above-named company, on which, or any less number, I undertake to pay both the deposit and call of £3, when required.

Dated this ——— day of ———, 1849.

Name in full .....
Profession (if any) .....
Residence .....
Reference .....

THE MODUM COBALT WORKS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In your Journal of the 10th of March, you inserted some remarks taken from the *Christiania Morgenblad*, of the 21st of February last, regarding those works; and, in your last week's Journal, I perceive a counter-statement has been forwarded from Norway (with a request that it might be published) to some remarks contained in an article in the *Daily News*, which appears to have been of the same unfavourable tendency as those which I transmitted to you. If the counter-statement be correct, no one will hail the announcement with more satisfaction than myself, as the stoppage of those works cannot but be a deep source of misery to the district in which they are situated; but I am inclined much to question the interested motives of those parties who have furnished the information to that Journal. I think, Sir, it would have had a greater semblance of probability if the parent statement of the *Morgenblad*, which could immediately and easily have been refuted, had on its publication been contradicted. The Modum Works have long, and I will not say undeservedly, held a high repute among the Norwegian mines; but, at the same time, it is a notorious fact that the present proprietors for a long period have endeavoured to dispose of them, and *where so good a market, or where so easy to raise capital, as London.* Previous to the mines being worked by the present proprietors, they were involved in a tedious and expensive litigation with several merchants in Christiania, and I am not sure that this is entirely settled. Several influential people, connected with cobalt establishments in England, have visited these mines, and, though possessed of capital, have never expressed any desire to purchase them, as their working would be more expensive than any similar establishment in this country. The Norwegians are proverbially ignorant, obstinate, and lazy workmen, excessively jealous of foreigners, and averse to all improvements and innovations. Though labour is not one-third of the rate it is in England, yet it is comparatively much dearer, as a good English labourer would get through more than five times the work, which they so acutely perform. Provisions are not much cheaper than in England, and Christiania is well known as one of the dearest capitals in Europe—in fact, with the exception of the coarsest necessaries, and some excisesable articles, as spirits and tobacco, clothing and all other things are 25 per cent. dearer than here. These facts I have not drawn from any published sources, but are the results of experience derived from a 7 years' residence in the country, during which period I had the superintendence of workmen in some of the mining districts. With the exception of the Kongsberg Silver Works (belonging to the Government), and the Roraas Copper Works, which barely pay a dividend of 4 per cent. to the shareholders, there are no mines in that county which are paying a profit (I do not allude to the iron-works, which are very trivial, and in the hands of private individuals); while a melancholy list could be given of works that have been commenced and abandoned, after a great waste of time and treasure.

Unfortunately, in several instances, British capital, which might more beneficially have been employed here, has been diffuse there to enrich poor districts, without returning any adequate remuneration to the unfortunate shareholders, who believed, in many instances, they were embarking in a second Kongsberg. There have been several attempts here to raise capital, and that very recently, both for these works and those of Snarum, which are situated at no great distance from them. The same experiment has likewise been tried in Germany, but hitherto without success; probably the revolutionary state of that country has prevented it, though I wonder whether *that was the case when it was tried in* 1845-46. I have no wish to depreciate the value of the Modum property, or any of the other valuable Norwegian mines, which, I have no doubt, their proprietors would generously, if *a favourable opportunity* occurred, dispose of on easy terms in London; but, I think, if they intend to raise capital here, they could do it with a better grace, and the public would have more confidence in the speculation that was offered them, if they saw the names of some of the leading houses of Christiania, Drontheim, and Bergen at the head of the list of subscribers. Several of those houses are known to be very wealthy—in fact, they have as European name, but they all have the merit of being exceedingly cautious, and a great desire to see British capital employed in any extensive speculation which may benefit the country, or the stability of which they have any doubts. If Modum offers such prospects as stated in the *Daily News*, the small capital required ought to be raised in a few hours in Christiania. We have mines enough of our own to work, without embarking capital in a foreign country, where, in addition to other disadvantages, there are difficulties of climate to contend with; and, I think, the British capitalist would be wise to pause, ere he risks his money in a country where speculators are so inert, or have so little confidence in adventures which, without trusting to interested reports, they can personally inspect, and receive the best evidence that of their own senses to guide them.—C.: *London, April* 12.

SOUTHERN AND WESTERN MINING COMPANY OF IRELAND.—We noticed in the Journal of 31st March, that the annual meeting of the shareholders in this company, which was advertised for the 19th, was postponed to Monday, April 2d, in consequence of there not being a sufficient number of shareholders present to constitute a legal meeting. We regret exceedingly to find, from a circular notice from Mr. W. Connell, the secretary, that on the latter occasion also a sufficient number of shareholders did not attend; and the consequence was a further adjournment to this day, the 14th inst. From the directors' report, presented at the first annual meeting, held on 6th March, 1848, we were in great hopes that this company, notwithstanding the alarming state of Ireland, and the dreadful destitution to which numbers of the peasantry were reduced, would, under all the circumstances, have made a steady progress; and while it was tending in some degree to lessen the suffering of the south-western districts, by giving employment to considerable numbers, it would also hold out a prospect of fair remuneration to the proprietors. Having obtained what no other mining company in Ireland has yet obtained—a Royal Charter—which secures every shareholder from liability further than to the amount of his own shares, the expenses attending its obtainment being defrayed, as also those incurred in all the laborious preliminary operations of a mine, it would naturally be supposed a fair field was open for the spirited pursuit of operations; but, from the apparent apathy evinced by the proprietary in not coming forward on that generally interesting occasion—an annual meeting—we fear the company is not in that prosperous condition which gives life to all commercial transactions, and acts as a powerful stimulus to enterprise. It is true there may be many circumstances which would account for the absence of shareholders on the occasions referred to, particularly the sitting of Parliament, which necessarily keeps many parties of influence in England; and we sincerely trust it may turn out that the two failures in forming a meeting have not arisen from apathy; but that at the one to be held to-day we shall find that the company still possesses within itself the germs of future prosperity.

GUTTA PERCHA.—Mr. Torrop, of Edinburgh, has communicated to the Royal Scottish Society of Arts, a notice of a peculiar property of this substance. Gutta percha, when cast and rolled into sheets, assumes a property belonging to fibrous substances, it acquires tenacity in a determinate direction. When in the roll or sheet this tenacity is longitudinal, but if a strip be cut from the breadth two peculiarities occur, the strip is susceptible of a definite elongation to nearly five times the original length, and its direction of tenacity is reversed. When it is considered that gutta percha is originally a fluid substance, or gum, these peculiarities are curious and remarkable.

TWELVETREES' CONCENTRATED WASHING PREPARATION.—This invention proposes to supersede the labour, expense, and inconvenience of that great bugbear of domestic felicity, "the washing-day." The process is much more simple, economical, and expeditious than the orthodox method of washing; while a beautiful whiteness is imparted to the linen. We are not aware of the contents of the mixture, we merely speak as to its practical application, which we have seen to be most efficious. As the proprietor cautions the public against purchasing liquids made from combinations of potash and all chemicals, and warrants his preparation not to injure the finest fabric, we presume that his mixture is free from those lavatory substances, which, at the same time they cleanse the linen, invariably and imperceptibly destroy the texture of the object on which they operate. After being used for washing, it will then be found serviceable in scouring all sorts of metallic substances and kitchen utensils, and, lastly, can be applied to the scrubbing of floors, without the aid of soap or soda. A slight portion of the preparation, mixed with water, will clean paint; and we have no doubt, if on further trial it is found to contain no injurious combinations, it will be a general article of domestic utility.

ENGLAND THE CENTRE OF THE EARTH.—If we divide the globe into two hemispheres, according to the maximum extent of land and water in each, we arrive at the curious result of designating England as the centre of the former (or terrene) half, and an antipodal point near New Zealand as the centre of the aqueous hemisphere. The exact position in England is not far from the Land's End; so that if an observer were there raised to such a height as to discern at once the half of the globe, he would see the greatest possible extent of land; if similarly elevated in New Zealand, the greatest possible surface of water.—*Quarterly Review.*

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

G. Carrington, Birmingham, wedding ring strainer.
J. Howard and Son, Bedford, horse drag-rake.
S. Hartley, Chelsea, artificial bird-shooting machine.
B. Donkin, and Co., Bermondsey, cock for water, steam, gas, &c.
G. White, Jersey, chimney-pot or ventilator.
T. Walker, Birmingham, heating heel for boots and shoes.
Mr. J. Brown, Oswald, tile and pipe machine.—*Mechanics' Magazine.*

[No English Patents sealed this week.]

Mining Correspondence.

BRITISH MINES.

BARRISTOWN.—Captain T. Angove (April 6) reports—The lode in the winze, sinking under the 16 fm. level, is not altogether so large as last reported, but containing more ore—a branch on the footwall, about 3 in. wide, nearly solid, producing about 6 or 8 cwts. of lead per fm. We are drawing the water out of the eastern flat-rod shaft, under the 16 fm. level, to expedite a communication with this winze to the 27 fm. level cross-cut; the lode in the stopes, in the back of the 16 fm. level, is producing about 12 cwts. of lead per fm.; the stopes in the back of the adit, near the slide, are, for 3 or 3 fms. in length, producing over one ton of lead per fm.; in the bottom of the adit, we have just unwatered a stope, about 20 fms. long, which will produce about 5 or 6 cwts. of lead per fm., on an average. In working a pitch west of the slide, in the adit we discovered a branch, about 3 fms. over the level, making through the slide, which we have driven on 1 fm.; and, although it increases in size, I doubt, if it is premature to call it the lode; it has the same underlay, composed of iron. I have engaged the *Jane*, of Milford, to bring a cargo of coals, and take a cargo of lead to Chester river.

BEAM (TIN).—Mr. Walter Treleaven, the purser (April 10), reports—I am glad to inform you that our quantity of tin, which was sold on Thursday last to Messrs. Daubuz and Co., St. Austell, came up fully to our expectations. I stated in my last report that we expected 2 tons of tin more than was raised in the month of February, but it amounted to more than that quantity. The produce of the tin was the same as before stated. The mine generally looks favourable. The 32 fm. level has been opened 15 fms. north from the engine-shaft—12 fms. of which was driven through attle, clearing the old level, when the miners were instructed to cut through whole ground; and in about 9 fms. beyond the 12 fms. named, they drove through, on Thursday last, the 5th day of April inst., a very good and promising caunter tin lode, 3½ ft. wide—calculated to contain at least one-quarter part tin throughout the lode, of very good quality. One stone taken from this lode has been weighed in my presence this day; it was 32 lbs. weight, and more than one-half tin, of excellent quality, composed chiefly of cockle and tin. Capt. Henry Williams has inspected this mine, and he has taken a sample from the lode in the 32 fm. level. I hope to be able to furnish you with Capt. Henry Williams's report next week. As the adventurers have agreed to part with some shares in this mine, on the conditions named in the prospectus, I have directed that a prospectus should be printed, and plans prepared, and I cannot tell why the proof sheets are not sent as requested. I hope they will come to hand in a day or two, after which I shall be able to furnish you with more particulars.

BEDFORD UNITED.—The manager (April 9) reports—I beg to hand you the following report, with the settings for the current month. To sink the engine shaft, 10 fms. stent, by nine men, at 16*l.* per fm. The sit plat is completed, and the shaft sunk 6 ft. below the bottom of the 103 fm. level. The ground continues to be favourable, and I trust the men will get good wages, and the company benefited by setting them a good long stent, and a fair price in sight. To drive the cross-cut at the 103 fm. level, 3 fms. stent, by six men, at 7*l.* per fm.; the distance driven last month is 3 fms. 9 in. To drive east at the 90 fm. level, 2 fms. stent, by six men, at 9*l.* 10s. per fm. We continue to drive by the side of the lode, and there is no alteration in the ground to notice. To sink Burley's winze, in the bottom of the 90 fm. level, 3 fms. stent, by 9 men, at 1*a.* 8*d.* in 1*l.* The lode in the eastern end of the winze is 3 ft., and in the western end is 3½ ft. wide, and worth, on an average, 80*l.* per fm. To sink a winze, in the bottom of the 90 fm. level, 2 fms. stent, by six men, at 5*a.* in 1*l.*; this winze is about 17 fms. west of Burley's winze, and will go down on a good course of ore. To drive east in the 70 fm. level, 2 fms. stent, by four men, at 7*l.* per fm; the lode in this end is 2 ft. wide, composed of spar and can, with some good stones of ore, and presents more kindly indications than for some time past. The pitches set are as follow:—In the back of the 90 fm. level, by two men at 12*a.* 6*d.* in 1*l.*; ditto, by four men, at 9*a.* 6*d.*; ditto, by four men, at 12*a.*; ditto, by four men, at 5*a.*; ditto, by four men, at 6*a.* 8*d.* In the back of the 70 fm. level, by two men, at 12*a.* 6*d.* Seven other pitches, all at 13*a.* 4*d.*, and by two men each, are continued, the take not being out. The whim engine continues to work well, consuming about 6½ cwts. of coal per day. The new crusher is in a complete state of working.

BIRCH TOR AND VITIFER.—Mr. J. Elliot Square has addressed the following letter to the shareholders:—"To obviate the possibility of your disposing of your shares, in ignorance of the very great improvements which have taken place in these mines, I deem it a duty which I owe to the shareholders to take this means of informing them that, on the Birch Tor lode, there has been a uniformly good lode in sinking for the last 10 fms., with every prospect of its continuance; that, in addition to the tin ground in the deep adit, a good shoot of tin has been within the last few days discovered in new ground in the shallow adit; that the adit, which is driving to cut the north lode, is on the whole progressing favourably, although the ground is rather hard; and that, on the Old Vitifer lode, the ore ground has held down from the point at which it was cut to the present sump, about 9½ fms., and that it has during the last week improved. I hope to be able, at no distant period, to submit to you a detailed report of this undertaking."

CALLINGTON.—Capt. J. T. Phillips (April 9) reports—The north engine-shaft is now about 6 fms. below the 112 fm. level, the ground is much the same as it has been for some time past—a stiff killas; in this level, both north and south, we are opening ground that will set at a moderate tribute. In the 100 fm. level, both north and south, the lode is producing silver-lead ores. In the 90 fm. level south we are opening tribute ground; in the 90 fm. level west, on the Kelly Bray lode, we have stones of copper ore in the back of this level, to the east of the cross-course, the same remark may be made. In the 70 fm. level the lode is 9 ft. wide, intermixed with copper ores, will produce about 3 or 4 tons to the fm. If any parties have been writing about returns of solid ores from this, or any other part of the mine, not noticed in the reports, allow me to say they are without foundation and without truth. At the south mine, in the 125 fm. level, both north and south, we are opening tribute ground. In the 112 fm. level north the lode is poor; in the south end we are opening tribute ground. The same remark may be made for the 100 fm. level north and 70 fm. level south.

CWM ERFIN.—Capts. Absalom Francis and Samuel Nicholls (April 7) report—Our 20 fm. level east is still in a good lode, yielding 1 ton of ore per fathom; the stopes behind this end will yield 15*l.* to 20*l.* worth of ore per fathom. The stopes east and west of the rise over the 20 fm. level west are producing about 8 cwts. of ore per fm. We have put two of the cross-cut men to open east for a fathom or two at the 10 fathom level, and two of the men to drive a cross-cut about 5 fms. east of the engine-shaft, to see the north wall of the lode at the 20 fm. level. Our top water is now very short; but we are still able to keep the water in fork at the bottom of the engine-shaft, and to crush our best ores.

EAST CROWNDALE.—Capt. S. Paull (April 7) reports—The ground in Diamond's engine-shaft is improved in the past week, composed of blue killas, very congenial for tin. The adit level, driving west on the course of Thomas's lode, is poor, the lode being much disordered by killas. Tippett's stopes, in the back of this level, continues to look well; we are carrying about 8 ft. of the breadth of the lode, which is composed of peach, prine, spar, mundic, and tin, and worth upwards of 40*l.* per fm. The new stope, which Paull and partners are at work in, looks well, is composed principally of peach, killas, and tin, and produces about 30*l.* worth per fm. In the 17 fm. level, driving east from Diamond's shaft, we have a lode about 5 ft. wide, composed of elvan, peach, mundic, and tin, worth about 12*l.* per fm. We intend to sample about 10 tons of tin on Tuesday next.

GREAT ROUGH TOR CONSOLS.—Capt. J. Hitchens (April 5) reports—I now beg to hand you the progress made during the past month in our several points of operations. The cross-cut at Thomas's is in from shaft 17 fms. 4 ft. 6 in., but yet no appearance of the lode; in the ground, however, there is a material alteration, now being a very compact killas, containing a large portion of capel and peach, but still maintaining the character of kindly ground. The lode must have taken a much greater dip from the horizon than was calculated on at the commencement of the shaft, which I consider favourable; the cross-cut is now where it (the lode) would be found if it underlaid 2 ft. in a fm.—judging from present appearances, I think we are not far from it. At Morris's, 30 fm. level east, the lode has been laid open for several fathoms, in which, as far as we have yet ascertained, a small branch of rich ore has been found, it averages about 2 ft. wide, and is 4 fms. long; at the eastern extremity, it has been crossed by a small diagonal branch of quartz, which has for the present disordered and made it poor; however, we shall still continue to trace it further east. We have broken something like 3 tons (I hope) of rich ore from the lode, which I intend to clear up next week, and get a sample of it assayed for future guidance; in the western end of this level there is scarcely anything that calls for remark, save that the ground is very hard, and the lode presenting nothing of a cheering nature. Morris's shaft has now reached the 45 fm. level, or 15 fms. below the 30. I have instructions from Mr. J. H. Hitchens, to commence cross-cutting at that level, which shall be done as soon as possible; it will, however, take nearly a month to prepare the shaft, to enable us to haul away the stuff from the bottom by the whim, instead of manual labour, as at present. I consulted Mr. Hitchens as to the propriety of driving a cross-cut north as well as south at the present bottom of this shaft, the object being to intersect several orey branches which passed through the shaft a little above the 30, as well as the great caunter lode we intersected a little below 20 fms. deep, and which gave us some tolerably good specimens of malleable copper. He thinks well of it, if you sanction it. There has been driven in the eastern end, at Morris's shaft, 7 fms. 0 ft. 6 in., and west 3 fms. 3 ft. 6 in., and sunk in the shaft 6 ft.

HEIGNSTON DOWN CONSOLS.—Capt. W. Richards (April 7) reports—The lode in the 35 fm. level, east of the engine-shaft, is 6 ft. wide, yielding some saving work, to the value of about 5*l.* per ton. The lode in the 30 fm. level, west of engine-shaft, is 4 ft. 6 in. wide, yielding good saving work, to the value of from 12*l.* to 15*l.* per fm. The tributers are working with spirit, and will get fair wages at their respective tributes.

KINGSETT AND BEDFORD.—Captain Spargo (April 7) reports—The mine in general looks well; the eastern lode, driving north, is much improved since my last visit. I broke some beautiful rich stones of lead in a soft spar, which appears to be fast coming into the lode, and the whole nature appears to be changed for the better; we have six men driving on this lode at 8*l.* per fm. I see, by a sketch before me, that we had about 13½ fms. to drive before we get up under the old workings—out of which we have driven about 80 ft.; the lode is now getting composed of soft spar, mundic, and good stones of lead; in the back, near the greens, we have discovered something like a lode, running nearly due east and west, with one well-defined wall, from which there is a great deal of water-proceeding; what we call the lode is 3 ft. wide, with large rocks of mundic, spotted with copper; we shall see more of it in a few days. There is a cross branch that is producing good work for lead, which we cannot at present attend to, until one end is driven out of the way. We have broken, this morning, stones of lead, from 8 to 10 lbs. weight, nearly solid, from the Bedford rise; the lode here is looking very promising, where we have four men rising.

KIRKCUDBRIGHTSHIRE.—The agent (April 7) reports—The lode in our engine-shaft is 5 ft. wide, with fine stones of ore in the east end, worth ½ a ton per fm. The lode in the 50 end, east of Stewart's, is 2 ft. wide, with spots of ore, the rock is still of the same kind; the lode in the 50, west of Keith's, is 1 ft. wide, with fine spots of ore and a very favourable rock; it is yet some fathoms short of the ore ground above. The lode in the 40 west is 3 ft. wide, with a fine branch of ore in the bottom of the end, yielding 5 cwts. of lead per fm. The lode in the rise is 18 in. wide, with fine spots of copper in it, and the ground getting more favourable for rising. We have shipped off another cargo of lead to-day of 50 tons.

MENDIP HILLS.—Capt. F. C. Harpur (April 9) reports—In the slag department we have a large heap of slags prepared for the furnaces, sufficient to keep them engaged four or five days, and, from its appearance, I should say, quite equal in value to any we have before smelted. In Charter-house Valley the beds of slags continue to look tolerable, being between 15 and 16 ft. thick, producing some very good quality slags, and improving as we proceed towards the eastern part of the valley. In Ubley slag ground, we are still removing the top rubbish from, and cutting through, the beds of slag-stuff, which, I am pleased to say, is about 12 ft. thick, very good work for slags.

SOUTH WHEAL TRELAWNY.—Captain W. Jenkin (April 5) reports—The 20 fm. level north is not quite so large as it has been but regular, with its underlay east, and also bearing off 22° east of north, composed of spar, killas, mundic, barytes, and spots of lead—ground a little harder in the cross-cut west, in the same level, we have not intersected any lode or branch. We are also making preparations to sink the engine-shaft with all speed.

TAMAR SILVER-LEAD.—Capt. James Sprague (April 9) reports—The engine-shaft is sunk 5 ft. below the 190; in the 190 end, south of the shaft, the lode is 18 in. wide, producing good stones of ore. In the 175 and the lode is 3 ft. wide, producing 5 cwts. of ore per fm. In the 160 end the lode is 4 ft. wide, in a disordered state, and unproductive. In the 145 end the lode is 1 ft. wide, composed of mundic and ore, good saving work. In the 135 end the lode is disordered by a slide course; in the winze, sinking in the bottom of this level, the lode is 15 in. wide, good saving work; our pitches are looking well. At North Tamar, in the 80 fm. level, the lode is 18 in. wide, composed of peach and mundic, at present poor. In the 70 end the lode is 3 ft. wide, producing some very good saving work; the pitch, in this mine, is also looking well. We sampled on the 5th inst. 105 tons of rich silver-lead ores, and have sent samples as usual to the different purchasers.

TRELEIGH CONSOLS.—Capt. S. Uren (April 7) reports—Garden's shaft, below the 113 fm. level, is sinking in the country north of the lode; in the 113, west of ditto, the lode is 3 ft. wide, with stones of good ore, and is looking very kindly. In the 100, west of ditto, the lode is 18 in. wide, but little ore. In the 90, west of ditto, the lode is 1 ft. wide, with stones of ore. In the 80, west of ditto, the lode is 18 in. wide, with stones of ore, mundic, and spar. In the 60, west of ditto, the lode is 3½ ft. wide, with good stones of ore, and is looking promising. Wheal Parent shaft, below the 20 fm. level, is sinking in the country north of the lode. In the 20, east of ditto, the lode is 2½ feet wide, with stones of ore, mundic, and spar; in the adit east, on the middle lode, the lode is 1 ft. wide, with mundic, spar, capels, and a little ore. We shall sample next Tuesday about 110 tons of ore.

WEST WHEAL JEWEL.—Captain R. Johns (April 9) reports—The 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, is suspended until a winze is communicated to the same from the 57 fm. level—drove last month 2 fms. The 57 fm. level, west of Williams's cross-course, on the same lode, is suspended, to sink a winze in the bottom of the same—drove last month 2 fms. 0 ft. 6 in. In the 47 fm. level, west of Williams's cross-course, on the same lode, the lode is worth 8*l.* per fm.—drove last month 5 ft. 6 in.; sunk in the winze in the bottom of this level 1 fm. 1 ft. 6 in.; in the deep adit, west of Williams's cross-course, on the same lode, the lode is looking promising for ore—drove last month 2 fms. 2 ft. 6 in. In the 57 cross-cut, north from Buckingham's lode, the ground is favourable for driving—drove last month 3 fms. 3 ft. 6 in. The 30 fm. level, west of Hodges's cross-course, on Tolcarne tin lode, is suspended until Tregoning's shaft is communicated to the same; this will be accomplished in about two months—drove last month 1 fm. 2 ft. 6 in. Tregoning's shaft is down to the adit level; the men are put to drive a cross-cut north, to communicate to the shaft—sunk last month 2 fms. 1 ft. 6 in.; Tregoning's shaft, sinking below the 12 fm. level, sunk lost month 2 fms. In the stopes in the back of the 12 fm. level, west of Pryor's winze, on Tolcarne tin lode, the lode is worth 18*l.* per fm.; the stopes east of this winze, in the back of the same level, are worth 15*l.* per fm.; the stopes in the bottom of the 12 fm. level, east of Tregoning's shaft, are worth 15*l.* per fm.; the stopes east of Tregoning's winze, in the bottom of this level, are worth 20*l.* per fm.; these stopes are all working on tribute.

WHEAL BASSET.—Capts. W. Richards and J. Pope (April 3) report—Williams's lode: The 90 fm. level east is driven 20 fms.; the lode is 15 in. wide, at present no ore, but has passed through ore ground for 5 fms., worth 8*l.* per fm. The 80 fm. level east is driven 10 fms., lode 18 in. wide, poor. The 70 fm. level is driven east and west of cross-course 125 fms., at present the lode is 2½ ft. wide, with stones of ore—this level has gone through good ore ground 15 fms. The 60 fm. level east is driven 77 fms., lode in the present end 15 in. wide, with good stones of ore—has passed through ore ground 25 fms., and will be worked at a low tribute; the 60 fm. level, on the south part of the lode, is driven east 8 fms., lode 9 in. wide, with good stones of ore. The 50 fm. level, east and west on the north part of the lode, is extended 102 fms., lode 15 in. wide, at present poor—it has passed through ore ground 45 fms., worth, on an average, 25*l.* per fm.; the 50 fm. level east, on south part, is driven 8 fms., lode 9 in. wide, with stones of ore, and will leave tribute ground. The 40 fm. level east, on north part of lode, is 15 in. wide, worth 16*l.* per fm.; this level is extended from east to west 128 fms., and has passed through good ore ground 100 fms., which will be worked at a low tribute; the said level east, on the south part, is driven 8 fms., lode 15 in. wide, worth 7*l.* per fm. The 30 fm. level, on the north part, is at present poor, but has been driven east and west of cross-course 102 fms., and 90 fms. of which is good tribute ground; the said level east, on south part, is driven 30 fms. through good ore ground the whole distance, and at present this end is worth 45*l.* per fm. The 20 fm. level has been extended 72 fms. on the north part of the lode, 50 fms. of which through good tribute ground; the said level, on south part, worth 10*l.* per fm., and has passed through good ground for 15 fms. long. The 10 fm. level east, on south part, is 20 in. wide, and worth 20*l.* per fm.—this level has been extended 20 fms., which will average 16*l.* per fm. In the rise above the said level the lode is 12 in. wide, worth 6*l.* per fm. On the whole, this lode has been very productive, and a considerable quantity of good ore ground is discovered.—Theaker's lode: The engine-shaft is sinking below the 100 fm. level north of the lode; the said level is extended west 40 fms., of which 20 is tribute ground; and also is extended north 50 fms., and we expect daily to cut the great north lode.—North lode: We are only driving the 80 fm. level west and the 70 fm. level east; the latter is a kindly level, and worth 6*l.* per fm.—Carn Ric: The engine-shaft is sinking under the 55 fm. level, north of the lode; various levels are driving at and above this level, and producing a fair quantity of tin. On the whole, the mine is looking very well, and we shall give a dividend, on the 5th of June next, of 10*l.* per one 128th share.

WHEAL TRERHANE.—Capt. S. Richards (April 9) reports—Kelly's shaft is sunk 13½ fms. below the 55, and we have commenced driving a 58 fm. level cross-cut west; the ground is clean killas, and very favourable for driving; the lode in the 55 fm. level north has produced, in the last 3 fms. driving, about 6 cwts. of lead per fm; in the present end it is not so rich, but contains good stones of lead; the stopes in the back of this level, north and south, are producing 8 cwts. of lead per fm. In the 45 fathom level north the lode is 2½ ft. wide, worth about 7 cwts. of lead per fm.; this level being driven to within a short distance of the boundary, we shall discontinue the end some time next week; the stopes in the back of this level are producing, on an average, 9 cwts. of lead per fm. In the cross-cut west, in the 30 fm. level, the ground is without any important change. The parcel of ore mentioned in my last is sold at 20*l.* 17*s.* 6*d.* per ton.

WHEAL TRELAWNY.—Capt. J. Bryant (April 10) reports—There is no change of consequence in sinking Phillips's shaft under the 72 during the last week. The lode in the 72 north is 4 ft. wide, composed of spar, can, and lead, worth 6*l.* per fm.; the same will apply to the lode in this level south; these ends are not so rich in lead at present as I have seen them; they present, however, a very promising appearance, and I expect an improvement shortly; the lode in the rise behind the end is worth 10*l.* per fm. The lode in the 62 north is 5 ft. wide, composed of hornspar, can, and lead, worth 10*l.* per fm.; in this level south the lode is a fair size, and worth 4*l.* per fm.; in the winze below this level is suspended, in consequence of water; the stopes in the back of this level are improved since my last. I am glad to say we have got through the hard elvan in Treleawny's shaft, and have now got killas ground, in which we shall be able to sink more than two fathoms to one. The lode in the 52 north is worth 8*l.* per fm.; the stopes in the back of this level, and in the 42, are producing a fair quantity of ore. At the north mine, in the end north of Smith's shaft, the lode is in a disordered state; we are driving on two small branches, producing stones of lead; in the winze south of this shaft, the lode is worth 6*l.* per fm. The tributers are, on the whole, getting on pretty well.

WHIDDEN.—Mr. A. Murray, jun., having recently inspected the mines, reports—that additional evidence of the existence of a north lode has been gained by the costeaning, or shallow cross-cuttings, near the surface, besides a considerable extent of congenial strata, containing metalliferous veins, apparently branching from the same lode. In consequence of this satisfactory exploration, all hands have been placed in the deeper levels of the mine, to extend the cross-cut north. Air-pipes have been fixed, and every exertion is being made to open into this favourable northern ground, where the principal lode may be cut and opened upon in the course of a month or three weeks, as the cross-cut is already extended 9 or 10 fms. towards that object.—[This report was omitted in last week's Journal.]

FOREIGN MINES.

COPIAPO MINES.—The following is the mine report for December:—

Copiapo, Jan. 31.—Checo Copper Mine.—In my last I informed you that we were about to commence sinking a winze below the 12 fm. level, to the west of the new shaft, and I now have the pleasure of informing you that we have sunk about 4 varas, and the lode still continues rich, and has improved in size. When we commenced it was about 1 foot wide; it is now 2 feet, and still promises to grow wider, without declining in quality. The end driving west in this level looks very promising, but the lode is not quite so rich or wide as when last reported on. In the end driving east, in this level, we have had an improvement; the scattered branches seem to be falling into the main, or leading part of the lode, and, in the last week, it has produced several tons of good ore, about 25 per cent. I have great hopes that it will still improve, that the rich ore will soon become more concentrated, and the vein be freed from some stony parts that are still blended with it. The lode in the winze, to the east of Harman's shaft, does not look so promising as it did a month since, and, unless it improves shortly, I shall suspend it until labourers are easier obtained, and powder for blasting cheaper, for it is now very hard. In the winze sinking below the 20 fm. level, to the east of the Victoria shaft, the water is greatly increased, and the lode has exhibited little or no improvement; it still gives some very good stones of ore, but not enough to pay for sinking, with the increased expense of drawing water. I intend to suspend this, and put the men to drive the 20 fm. level, to communicate the winze sinking below the 12 fm. level, at the new shaft, where we hope to lay open some very productive ground; the stopes in the back of the last named are looking well; the lode is 14 in. wide, and the ore rich—35 per cent.

Esperanza Copper Mine.—I am sorry I have no improvement to announce here; the lodes in the different works are still large, and producing a great quantity of low quality ore, of 10 or 12 per cent., with only a few stones of rich ore now and then. I intend visiting this mine in a few days, when, if I see no improvement, I think it will be to the company's advantage to employ the people where there is a greater probability of their being able to break out silver and gold.

San Pedro Copper Mine.—We cannot get a native barretero to work in this mine, it being near the Fres Puntas, and the natives would rather work in silver or gold mines, for motives that are not the most honourable. Of this there is but little doubt, as there have been several daring robberies committed in the last month, but not in our mines. We have, however, four English miners here—one driving the 10 fm. level, which, I am sorry to say, is poor, and the other three stoping away the best of the ground in the back of the 10 and 5 fm. levels, from which they still get out enough to pay expenses. Produce at Checo for December, 33 tons; San Pedro, 20 tons; Esperanza, 2 tons=55 tons.

Silver Mines—San Jose del Carmen.—This mine certainly presents the most cheering prospects, and promises to be one of the exceptions to the general rule, as regards the quantity and quality of its ores. In most instances that I have witnessed, where the ore is of a ley that produces 300 or 400 mcs., the lodes are small; and it is only where the ores are poor that I have seen such large veins containing the precious metal. I have, however, seen one or two instances before in which Nature seems to bestow her bounties with a liberal hand; but never more so than here, where we have a vein from 2 to 3 ft. wide, producing, in large quantities, ore of a very superior class and quality. In this month we have done but little. Although the mine is so rich at times, we have not been able to procure but two native barreteros, or pickmen; with these and two English miners. We have done a great deal—comparatively so—as will appear hereafter. About 10 days they were employed in building an additional rancho for the better security of the ores, provisions, &c., and the apires bringing stone, &c., for the purpose, four or five days building landmarks to fix the boundaries of the sett, and the remainder of the time in descuming the lode and breaking it down, which has turned out, as nearly as we can calculate, about 25 tons—5 tons of which is of a very superior quality, worth more than 600*l.* per ton; and the other 20 tons, not less than 100*l.* per ton. This has been produced from two points only, where we are driving two levels—the one north and the other south; a few varas only below the surface. About 80 fms. to the south of these last named works, we have discovered a fine vein of silver ore, close to the surface, about a foot wide; we have broken from it about 10 or 12 quintals—say, half a ton. This, I fully believe is worth 800*l.* a ton, and promises to produce in large quantities.

After Hallada.—In the breaking down of the lode in this mine, referred to in my last, it did not turn out as well as it was expected; it produced about 15 tons of ore—6½ of which are now being amalgamated; but I cannot learn the ley as yet. The remainder will be brought to the city, and returned in a few days. Since the last breaking down, we have had a great improvement in these different points, about 30 to 40 fms. apart, where we are sinking on the lode from the surface, and which had been disordered by a slide; it is now become settled, and promises, from the present appearances, to yield rich ore in great quantities; the vein in each shaft is about 2 ft. wide, and the ore now in sight, of a good quality, from 200 to 300 mcs. per cajon, or, at least, we believe it to be so; but, then, we have only four barreteros working in the three different places, where we ought to have had nine at least.

Carmen Alto.—We have broken down the lode in one of the shafts in this mine, from which we have taken out about 13 quintals of ore of good quality, but have not been able to finish breaking down the vein in time, for want of labourers to do it; but the prospects here are, in my opinion, very cheering. It is a sett that I admire as much as any one I have ever seen. We have three large lodes, each shewing visible silver in different points, and about 200 varas to the north of our present workings they all fall in together, and form a grand junction, where, I believe, there will be a large course of silver ore. When we have sunk to a depth of 15 or 20 fms., I intend to drive a level to intersect the junction, where I think it will be found in a compact and settled state; besides, there are half-a-dozen other places where we could break ore, if we had people to work, and troops to carry the ore.

Mercedites.—We have broken down the vein in this mine, and have cut a very pretty little bunch of silver ore; the vein is about 18 inches wide, 9 of which is good ore. We cut this near the bottom, or about 4 ft.; before we finished breaking down, and it has produced nearly a ton of ore, that I think will yield 200 mares per cajon—say, 130*l.* a ton, and I have great hopes of its improving in size and quality. In my next, I hope to be able to report that we have commenced operations in the other silver and gold mines, which I have recently obtained for the company.

Produce for Jan., San Jose del Carmen	.....	*Tons* 25
ditto	Alfin Hallada	10
ditto	Mercedites	1—36

About 4½ tons of which is the company's share.

IMPERIAL BRAZILIAN MINES.—*Bananal, Feb. 3.*—At Gongo nothing needing particular notice has occurred since my last. At this place our cross cuts westward, at the adit level, from Wray's and Goldsmith's shafts, are still in progress; in the former the rock is rather harder than usual, and in the latter more quartzose—probably from approaching the limits of the jacotinga formation. Our cross-cut westward, from Walker's shaft, in the 14 fm. level, is in favourable ground, but it has been too recently commenced to have disclosed much. The vein in Thomas's shaft, which has been for some time declining in value, is now small and poor; it scarcely shows, indeed, a speck of gold. We have, therefore, discontinued sinking, and have commenced driving southward on it. A second small turn in its course has afforded us about two-thirds of a box of rather inferior work for the washing-house, but the vein in the present end of the level is small, and of but little value. We are about to drive northward also, at the same depth, but our preparations for doing so are not yet quite complete. We continue to extend the 7 fm. level northward from the same shaft, but the vein, although it has in some spots shown slight traces of gold, is at present small and hard. Percolation of the recent rain water has filled the winze we were in course of sinking on the Big Pump vein, but the 6 fm. level, south of Thomas's shaft, is approaching it, and will shortly drain it. A junction of two rather different formations of iron slate occurs between Thomas's and Hollingworth's shafts, and just at their point of contact we have commenced a cross-cut westward, at the adit level, but nothing worthy of remark has yet been found there. We continue the shallow adit level through the western jacotinga, but have discovered nothing requiring especial notice. We have extended a rise about 7 fms. above the adit level, west of Hollingsworth's shaft, but the vein in it is very poor; and as there is some chance of our reaching the old Brazilian workings, and causing thereby inconvenience, we have resolved to stop it, and commence a second, on the same series of veins, some fathoms south of the first. Since my last we have obtained a few "hat-caps" of work from the 7 fm. level, west of this shaft, and about a foot in length of the same vein affords tolerable samples in the bottom of the level, but nothing more. We are making some trials on the deepest parts of the most promising veins at Santa Rita, but they are not far enough advanced for any report of them. The little old stamps are thoroughly repaired, and have worked regularly since the 24th ult.

Feb. 13.—Gongo presents nothing new. Respecting this place the only detail I have to add to those contained in my last respects are, that our 6 fm. level, south from Thomas's shaft, has intersected the Big Pump Vein, and we have obtained a few ounces of gold from it—the portion now in sight affording nothing save for the stamps. The sink below the 7 fm. level, west from Hollingsworth's shaft, is about 6 ft. deep, and we have had tolerable work for the stamps from one end of it; the abundance of water, however, obstructs us very much. We have employed one Englishman and four labourers for 10 days on the best veins we can find at Santa Rita, but the whole produce there has barely reached 1 dwt. of gold.

		Gold Report.						
From Gongo, from 23d January to 2d February	.....	*Lbs.*	5	9	16	0		
Ditto	from 3d to 12th February	.....	6	3	5	0—	12	1	1	6
From Bananal, from 23d January to 2d February	.....		6	9	6	0		
Ditto	from 3d to 13th February	.....	7	11	14	0—	14	9	0	0
							Lbs.	26	10	1	0
Total from 1st January—Gongo	.....	*Lbs.*	22	10	1	0				
Ditto	Bananal	.....	19	7	0	0				
Making	.....	*Lbs.*	42	5	1	0				

NATIONAL BRAZILIAN MINES.—[*Received April 10.*]

There is now (although we have not even taken a good sample for several days) one of the most important points in progress at the Cocaes mine. By examining the plan and sections presented to you on the 12th March, and the report which accompanied them, it will be seen that the Bandura and Cavaco veins will intersect each other in depth, at which point of intersection we are looking forward with great hopes of a rich deposit of gold. Immediately as these veins come in contact, one of them will, probably, be thrown out of their former course, as they are not likely to cross each other and continue their present direction, but will, in all probability, unite and form one great vein.

Cocaes 3d Feb.	.....	Mks.	6	2	0	11				
,, 13th do.	.....		4	0	7	49—	10	2	7	60
Cuiaba 6th do.	.....		1	7	6	65				

ST. JOHN DEL REY MINES.—*Morro Velho, Jan. 28.*—Gold extracted to date 14,454 oitavas, from 871·89 cubic feet of sand (being the produce of 21 days' stamping) =16·58 oits. per cubic foot. This shows an improvement over the result of the first 10 days, which yielded 6733 oits.=673 oits. per diem; and 11 days, which yielded 7721 oits.=702 oits. per diem; and we may, therefore, I hope, anticipate a fair month's produce, though, perhaps, not quite as large as the preceding month.

Stamps working 27 days, 94 2-10ths heads. The supply of stone from the mine begins to improve, and for some days we have not been compelled to resort to the refuse heap, though still obliged to stamp all the killas and inferior stuff sent up from the mine.

Inclined Planes.—We have now two new inclined planes in hand—one in the Bahu, and a second line in the Cachoeira; and the alteration and prolongation of the original line in the Cachoeira are progressing. All this, though doubtless extremely advantageous for the future working of these mines, and ultimately tending to produce no trifling economy, as well of money as of labour and of risk, must, for the present, occasion a continuance of heavy expenditure in materials, particularly in timber and iron.

Feb. 7.—Produce for January, 21,826 oits.=209·68 lbs. troy, from 6188·8 tons of ore, yielding 3·52 oits. per ton. As I ventured to anticipate in my letter of the 18th ult., the 2d, and, still more, the 3d, portions of the month have progressively improved on the 1st; and I trust the month's produce will prove satisfactory to the board. Stamps working during the month, 92·74. Supply of stone has rather improved of late; and, for the last few days, we have been enabled to resume picking, though but to a small extent. This, I fear, will now again be checked by the loss we have just sustained of 11 men, who have been removed.

Cost for January, rs. 36,364 348, Ex., 24½	.....	£3712 3 10
Produce, 21,826 oitavas; less duties, 7 per cent., 1528—net oitavas, 20,298, at 7*s.* 7*d.*	.....	7624 6 6
Profit	.....	£3284 2 8

WHEAL CALSTOCK MINING COMPANY.

A general meeting of adventurers was held at the offices, Tavistock-place, Plymouth, on Thursday, the 5th inst.

J. P. MACQUEEN, Esq., in the chair.

A statement of accounts to the 28th of Feb. was produced, showing—Mine cost to 31st August, 1580*l.* 9*s.* 9*d.*; from Sept. to Feb. (inclusive) 375*l.* 13*s.* 10*d.* =1956*l.* 3*s.* 7*d.*; by call of 8*l.* per share, 1860*l.*, leaving a balance against the mine of 96*l.* 3*s.* 7*d.*; to which is *added* "calls due," 28*l.* 5*s.*=124*l.* 8*s.* 7*d.*, less due to Naval Bank, 100*l.*, leaves balance, due to purser, of 24*l.* 8*s.* 7*d.*; Naval Bank, 100*l.*; liabilities to various merchants, 2*l.* 11*s.* 5*d.*=335*l.* 13*s.* 7*d.*; by available assets, 28*l.* 5*s.*—showing a balance against the company, after paying all liabilities, and to be provided for, of 307*l.* 8*s.* 7*d.* The accounts were approved and passed; a call of 1*l.* per share made, and the following gentlemen appointed the managing committee:—Messrs. W. Burnell, J. Bayly, J. Boswarva, J. L. Colley, J. Gillard, H. Luscombe, J. P. Macqueen, R. H. Pawley, and J. D. Saunders. The following report, from Capt. W. B. Collan, was read to the meeting:—

April 5.—In presenting you with the report of this mine, I beg to inform you, since the last general meeting, held October 23d, 1848, our operations have been principally carried on in the 50 and 30 fm. levels; and also in the new sett to the east, in Lord Ashburton's land. In the 50 fm. level west, the quantity of ore broke from the bunch discovered at the last meeting, we estimate at from 40 to 50 tons of good quality ore, and worth at least 250*l.*; but from the delay occasioned in obtaining the other part of the eastern sett, over which we had no control, it has prevented us from sending the ore broken to market, and making the proceeds available to the company; still a great good has resulted from it; the price of copper so rapidly rising will enable us to make so much more, as in the end amply to reward us for the delay. Since we have obtained the eastern sett, we have cleared up the old men's workings in the deep adit, and we find the ground taken away both above and below this level, and from which large quantities of ore must have been returned. The quantity of ore ground already discovered, and on which we shall be enabled to work by means of an engine wheel to pump the water below the adit, is about 100 fms. in length; we have also commenced driving south to cut the main lode in this new ground, on the eastern side of a cross-course; judging from the fine branches of ore met with in the killas, and the water being so strongly impregnated with copper, there is every probability of cutting a good lode when it is intersected. In the 30 fm. level we have not yet reached the point where the lodes unite, but very few fms. will now bring us to that place, and that a trifling expense. In the 50 fm. level west we have commenced cutting into the lode, at a distance of about 30 fms. from the bunch of ore discovered at the bottom of Tree's shaft. By obtaining the other part of the eastern sett, which will be ready for us by the 24th of this month, we shall be enabled to erect the necessary machinery for working the mine below the deep adit, and driving the levels under where the old men returned their ore from; by doing this work, we shall, I believe, soon have a profitable mine. In the new sett which has been obtained, there is a large amount of work already done for us, consisting of a grinder house, wheel pit and leat, blacksmith's and carpenter's shops, material house, &c., an engine-shaft sunk 30 fms. deep, and an adit cut, which can be made use of for the wheel-pit. Arrangements will also be made for the use of a quay, for sending away the ore, and bringing up materials, &c., on the completion of the sett, from the Earl of Mount Edgcumbe. The work to be done to carry out the mine, will be to erect the necessary machinery to work it below the deep adit, as soon as the sett is made complete, to drive eastward in the deep adit on the course of the lode, where, I believe, many valuable discoveries will be made, working on the ore discovered in the western level, and extending the 30 f

care a suitable steam pumping-engine, and that no time be lost in getting up the necessary erections, and sinking a new engine-shaft from surface, to effect, which a call of 2*l.* 10s. was made.

WHEAL BENNY.—A general meeting of proprietors was held at the offices King-street, Cheapside, on Tuesday, the 10th inst.—JOHN ADDIS, Esq., in the chair—when the letter of the purser convening the same, and minutes of previous meetings, were read by the SECRETARY (James Crofts, Esq.)—The balance-sheet, showing a balance in favour of the mine of 102*l.* 0s. 4d., including arrears of calls, was presented and passed, subject to the usual audit, and 38 shares belonging to defaulting proprietors were declared forfeited.—The meeting being thinly attended, it was resolved, that the mine should be fully inspected by a competent and experienced mine agent, before any further call was made.—Mr. R. T. Brown was added to the finance committee.

WHEAL SETON.—The usual two-monthly meeting of shareholders was held at the mine, on Monday, the 9th inst., when the following statement of accounts were presented:—Cost for Jan., 1300*l.* 6s. 10d.; Feb., 885*l.* 12s. 6d.; merchants' bills, 814*l.* 9s. 8d. = 3000*l.* 9s.—By copper ores sold January 4, 287*l.* 14s. 9d.; Feb. 1. 1649*l.* 16s. 5d. (less dues, 175*l.* 16s. 9d.)=2461*l.* 14s. 5d. —Copper ores sold, February, from western ground (less dues, 19*l.* 1s. 9d.), 267*l.* 4s. 4d. = 2728*l.* 18s. 9d.: showing a loss of 271*l.* 10s. 3d.—Balance last account, 440*l.* 13s. 8d.: leaves now in hand, 169*l.* 3s. 5d.

[For continuation of "Meetings of Mining Companies," see page 175.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

BIRCH TOR.—Prideaux shaft has been worth 18*l.* per fm. for the last 9 fms., with no perceptible variation; in the deep adit east there is a good lode. Dunstan's shaft, on Vitifer lode, has much improved in the last 10 days; this is the best part of the mine. In Prideaux and Dunstan's shaft we hope to commence driving a level east and west on the 16th inst.

KINGSETT AND BEDFORD.—I was underground here on Saturday, and am happy to tell you, that there is an improvement in the eastern lode driving north, as well as in the rise, out of which we broke fine rich stones of lead, and still continuing good, inasmuch that we have added two men more, so as to keep it going night and day; here we are opening good tribute ground, with 40 fms. of backs above us; we can break rocks of lead more than a man can heave; in the end driving north on the same lode, 70 fms. south of the rise, we are breaking good work; the lode is 3 ft. wide. We have again discovered the regular wall of the copper lode, and hope, as we get off from the slide that has so disordered it, I shall be able to state the size and quality of it. We are now breaking large rocks of mundic, impregnated with copper, but cannot as yet say the size and the exact underlay; I hope to be able to ascertain this in a few days.

PLYMOUTH WHEAL YEOLAND.—There has been a discovery in the shaft on the north lode, which is now let at a tribute of 13s. 4d., the men to square the shaft, &c. The old south lode is not looking so well as it did. The new south lode is improving in depth.

WHEAL FRANCO.—The western part of this mine is not looking so well as it did a month since, but in the 62 fathom level west there is an orey lode, full 5 feet wide, which looks well; as in the old mine, 100 or 120 fathoms west of this, there was a very rich course of ore, and the intermediate ground has never been seen. The parcel sampled on the 5th will leave a profit on the month's working of about 100*l.*; the next will be considerably more.

[From the *Plymouth Journal.*]

PLYMOUTH WHEAL YEOLAND.—New South Lode: The ore ground has a little lengthened, and there is reason to expect a good lode in the next level, which will not be cut for three months.—South Lode: This lode has been cut over the slide by boring south, but nothing can as yet be said as to its size or value, and it probably will not be seen for a fortnight; but, as this lode is poor under the slide, little is expected from it.—North Lode: Here a pare of men have discovered ore in the lode, and it has been let to them on a tribute of 13s. 4d. in 1*l.* for two months, and they are doing well. This lode is large, and very promising in character.

PLYMOUTH WHEAL YEOLAND EAST.—In the adjoining mine a shaft on the lode has been let to sink on tribute, not many fathoms from the boundary of this sett. The clearing up to the end of the old men's working is anxiously looked for, from the circumstance that the whole of the backs in our present level have been taken away.

HAWKMOOR.—The lode here is fast improving, and shares are much sought after.

WHEAL ANDERTON.—The lode in the 90 fathom level is very rich. The other parts of the mine are without alteration.

TAVISTOCK CONSOLS.—The Wheal Ash Lode: In the 35 fm. level the leader of spar and ore to the north of the leader of mundic, is from 11 inches to 13 inches wide; a course of solid mundic occupies the entire sump. The end in the adit level is in a course of mundic, varying from 5 feet to 7 feet wide, with occasional spots of ore. The operations on the other lodes have not been commenced, but steps will shortly be taken to prove the Wheal Anderton tin lode in depth.

BIRCH TOR AND VITIFER MINES.—The cross-cut to intersect the north lode is still hard. Birch Tor Lode: Prideaux shaft is now 10 fms. under the adit, and worth about 16*l.* per fm. from the adit to this place. The lode has not varied in value 10s. per fm. A shoot of tin has been, since our last, discovered in the shallow adit.—Old Vitifer Lode: The lode in Dunstan's shaft has considerably improved, and the ground is more favourable for sinking. It is expected that the 10 fm. level, east and west on the Birch Tor lode, and also the 10 fm. level east and west on the Old Vitifer lode, will be commenced next week

ACCIDENTS.

Fatal Mine Accident.—Thomas Trethewey was killed, at Great Polgooth Mine, on the 5th inst., by falling from a plat to a depth of 20 fathoms. He has left a wife and seven children to lament their loss.

Pontypool.—A party of seven workmen got on a carriage, at the bottom of the Bottom Pit, to ascend from their day's labour, and, when elevated about 15 yards, a stone unfortunately fell from out of the walling of the pit on the head of George Artwell, inflicting so frightful an injury as to cause death in two hours.

Aberychan—Terrible Explosion.—A dreadful accident happened in the engine-pit, at the British Iron-Works here. A man, named William Pugh, and a little boy, named T. Meredith, were going along the heading, when Pugh observed one of the tram plates out of order, and directed the boy to put it right, whilst he went on to the work. The boy put his candle down, and was proceeding to obey the order he received, when an explosion of the damp took place. The poor boy was killed on the spot, and seven men were seriously injured. The boy and his brother were the sole support of a mother and several other children.

Bilston.—As L. Burke was coming up a shaft with two companions, at Mr. Vernon's colliery, Mill-lane, the skip caught the side of the pit, about six yards from the top, and the deceased fell to the bottom, about 60 yards—he was killed on the spot.

Rowley Regis.—J. Jarvis was seriously injured by fall of coal at the Bearmoor Colliery.

Accident at Landshipping Colliery.—An accident of a most distressing nature occurred here, by which the lives of two boys of the ages of 13 and 15 were lost. It seems that in the course of the work the men had to leave pillars of culm, as is usual, to support the mass, which the boys, when the men had left for a short time, foolishly removed, although they knew, to a certain extent, the danger they incurred by so doing. The consequence was what might have been expected—they were crushed by the weight, and killed on the spot.—*Swansea Herald.*

IMPROVEMENTS IN GENERATING STEAM.

[Specification of patent granted to Mr. John Wright, Camberwell, Surrey, engineer, for improvements in generating steam, and evaporating fluids, dated Oct. 12. Specification enrolled, April 12.—*Mechanics' Magazine.*]

These improvements consist in the construction and application of tubes and cellular vessels, charged with water or other fluid, to the heating and evaporation of fluids; and the principle on which they are based, is the circulation of water through a coil of pipes, provided one portion of the coil is subjected to the action of heat. The mode shown by the patentee, of applying tubes to this purpose, is by uniting the two ends of a sufficient length of metal tubing by a steam and water-tight joint, and bending it into a rectangular figure. One of the sides is then inserted in the furnace, and the opposite end is immersed in the water of the boiler. The water in the tube in contact with the fire will ascend by inferior gravity, and pass through the water in the boiler, to which it transmits a portion of its caloric, and descends to its first position, and thus becomes alternately a receiver and transmitter of heat. In order to its more effectual working, the two ends of the endless tube, in contact with the fire and the water, are made serpentine.

The cellular vessels are composed of malleable cast-iron or copper, or any alloy of copper, cast in the shape of transverse tubes (with spaces between them), which open into longitudinal tubes, or they may be made of two corrugated metal plates, united by welding or by riveting. One of the vessels is placed underneath the boiler in the furnace and other vessels are immersed in the water of the boiler, and all connected by water and steam-tight joints, and filled with water. The heat, ascending from the fuel, strikes against the cellular vessels, and, passing through the spaces between the first part of the transverse tubes, impinges against the bottom of the boiler. It then passes over the bridge, and descends through the spaces of the second part into the flues, whence it escapes into the chimney. The vessels, before being used, are bent into a curved shape.

In locomotive and marine engines the transverse tubes are placed vertically, and may be used to form the sides of the furnace of the former. In marine engines, and in cases where no great body of fluid is to be operated on, one of the vessels is placed out of the boiler, and the feed water, or fluid, to be evaporated caused to fall upon it in minutely divided particles, like spray. To the back of the descending portion of the vessel is affixed a tube, connected with a safety-valve, loaded, to allow of the expansion of the water. Any loss of water in the vessel from contraction is supplied by an ordinary self-feeding apparatus. Instead of water, it is proposed to employ, as the transmitting medium of caloric, coline, or oleaginous oil, or amalgam of mercury.

Claims.—1. The various cellular vessels, charged with water or other fluid, for boiling or evaporating liquids.

2. The use of cellular vessels, charged with water, or other fluids, for boiling or evaporating liquids, when employed as described—that is to say, when one or more vessels are immersed in the liquid to be boiled, or evaporated, and connected to one or more vessels placed in the furnace.

STONE FOR BUILDING.—Amongst the various specimens of stone which have lately been introduced in London, we have noticed one, the production of a quarry in North Wales, known under the name of the Fron-oleu, near Tormadoc, Carnarvonshire. It seems to combine unusual properties; for, though the stratum partakes somewhat of slate, it has all the solidity and durability of marble, and it is admirably adapted for the pavement of churches and public buildings, for the face, when worked, is beautifully fine, and has an agreeable and cheerful colour. In the rough state it is well adapted for town foot flagging. It is also useful for sewers, as the jointing is perfect, and the sizes are large and strong. It is as equally impervious to wet as slate, and, what is a great consideration, the price is so cheap, if not cheaper, than ordinary flagging.

THE BRAZILIAN MINING COMPANIES.

We have been favoured with the following extract of a private letter, received by the last Brazil mail, from a gentleman residing in the mining district of Minas Geraes:—

"I was lately in the neighbourhood of Cocaes; from all I could collect the present appearances of the stone, and the extreme economy which for many years has characterised its management, give reason to believe that the perseverance, skill, and energy lavished upon this undertaking will still meet their reward in good results.

"The mines of the Imperial Brazilian Company are, I regret to say, quite the reverse of flourishing; I understand that operations at Gongo Soco have been brought to an end, and that the new mine of Bananal has sadly disappointed the sanguine hopes of all—hopes founded on facts; for there is no doubt whatever that immense quantities of gold have been taken out of this mine. Although the present looks gloomy, there is no cause to despair. In a jacotings formation you may, by one fortunate blow with a pick, turn a losing speculation into a flourishing and dividend-paying concern. This company deserves success; since its establishment in 1824 it has been of great national service to Brazil, and especially to this part of the country, where its dissolution would be regretted by many, who have not only learnt to labour like Englishmen, but also to love and respect their teachers.

"Of Morro Velho, which is now the only English company dividing profits, I have more detailed information of the present position, than of the other mines. The lode is not rich, but extensive and wide. There are nearly, if not quite, 1000 blacks at Morro Velho. The produce is, I understand, large; you will know how much, and what the profit is, in London, long before I shall. One thing is certain, that fresh blacks are pouring in for hire, that the mines are being made to give as much stone as can be pinched out of them, and that the produce ought to be something like 25,000 or 26,000 oitavas per month. I say, ought to be, because the costs must have very materially increased. Blacks are, I am told, hired for six years certain, at $120 per annum, the company paying for them during these six years, whether they live or die. This, the high rate of hire (as much for first class men as $140 per annum), and the very low price at which slaves can be purchased ($300 cash), naturally attract slave owners, who are, probably, not particular in concealing anything wrong in the sanitory condition of their slaves. Whether from this cause, or others, I know not, but the mortality amongst the black race is terrific. I heard, from what I believe to be good authority, that eight slaves had died in less than a fortnight. From every inquiry I can make, I believe the slaves are perfectly well clothed and fed; but rumour gives out that some of them are overworked—that the manager of the blacks is at variance with the surgeon (with whom he is, from the nature of his duties, in constant communication)—that this manager, himself a surgeon, has sent sick slaves to the hospital, who were immediately sent back—that the superintendent listens to one side only, and the negroes, depressed by illness, and accused of shamming, without one white man with power to help them, to whom they can look up for redress, or protection, lose all courage, and are dying like rotten sheep.

"One thing, however, is clear as sunlight—that no unanimity exists at Morro Velho; all the officers are so much at loggerheads, that no one individual is on good terms with *all* the others. This state of things is the more dangerous to the well doing of the company, from the superintendent not being able to see anything for himself, being nearly blind. He cannot go down the mines, or learn anything practically of them, being old and very infirm. Not one of the officers ever goes underground; they do not like it, and as their duty does not call for their presence there, they are as ignorant of the mines as if they had never seen Morro Velho; and even if one of them knew anything about it, it would be dangereus to mention it, if in opposition to the favourite of the day. In short, the result of my observations on this particular mining company is, that under more capable management, it would be a safer investment than it is at present."

IRONMASTERS' QUARTERLY MEETINGS.

WOLVERHAMPTON, APRIL 11.—The second of the quarterly meetings of the ironmasters of this district for the current year and quarter took place here to-day; at the first, at Walsall, yesterday, the attendance, as usual, was limited. To-day there was rather a large attendance of the chiefs of the trade, but very little business was doing—indeed, so far as could be ascertained, fewer orders were given than for the last two or three quarter days. Consumers have, seemingly, an idea that the bad state of the home trade and other circumstances will have a tendency to lower the price of the article. The ironmasters themselves, however, profess to be of decidedly a contrary opinion; and, notwithstanding the fact of their orders being upon the whole inconsiderable, they aver that they are at least sufficient to enable them to maintain the advance made in February as the price for the coming quarter. Certain appearances, too, would seem to bear out this conclusion: the works throughout this district, and up into Shropshire, are all apparently in full operation, and we have good authority for stating that stocks, upon the whole, are small, especially pigs, the price of which is very firm. There are a larger number of furnaces in blast than at the corresponding period of last year; and although the demand both for rails and the export trade has fallen off, still it is quite clear that manufactured iron is much more in request than might reasonably be expected: in short, all things taken into consideration, it appears probable that present prices will stand throughout the quarter. The miners are seemingly pretty well satisfied just now: we hear of no complaints on the subject of wages—a circumstance which cannot fail to add to the chances of steadiness in the trade.

BIRMINGHAM, APRIL 12.—The third meeting of the ironmasters was held here to-day; the attendance was the largest that has been known for several years. Affairs took rather a different turn to what was expected, having in mind their appearance at Wolverhampton yesterday. Here the ironmasters, so far from showing a disposition to yield, manifested some of them a disposition to advance. Seeing this, orders were freely given in customary quantities by manufacturers; in fact, they were rather larger than otherwise. Present prices may, therefore, be considered very firm, and, unless under extraordinary circumstances, it may fairly be assumed that they will stand throughout the quarter. The largest ironmasters, who may of course be relied upon, report that the trade is in what may be considered a healthy state. This will convey a better idea of the actual condition of the trade—certainly a more truthful one—than any of the elaborate statements which have been recently put before the public. The present prices are—Staffordshire bars, 7*l.* 10s.; hoops, 9*l.*, and sheets, 10*l.* Lower figures may have been taken, but the foregoing are the prices recognised by the great houses. As already stated, pigs are small in stock, and prices have an upward tendency; the present quotation is about 3*l.* 15s. Accounts have been paid with customary punctuality. The final meeting of the trade takes place at Dudley on Saturday (this day).

THE IRON TRADE IN AMERICA.—A letter from New York states that the iron trade has shown great signs of animation, and that prices had advanced. The following table shows the imports from Europe, at the port of Boston, during the year 1848, as compared with the same period in 1847:—

	1848.	1847.
Bar iron	*Tons* 1,316	*Tons* 2,713
Pig	18,359	10,703
Bars	359,010	185,805
Bundles	41,023	25,898
Sheet and hoop, bd.	12,852	13,167
Blooms	1,155	846
Plates	6,099	939
Railroad, tons	13,941	2,970
Railroad, bars	21,518	12,699

THE GRIMSBY DOCKS—ROYAL VISIT.—Great preparations are being made by the various official authorities for the reception of his Royal Highness Prince Albert, on the occasion of his visit to Grimsby, on the 18th instant, to lay the foundation stone of the stupendous docks about being formed at that port. The following particulars, in reference to that important undertaking, will be read with interest at the present moment:—In 1845, a company was formed for the purpose of making a dock at Great Grimsby, worthy of its admirable local position, and to connect it by the then contemplated railway with all the principal towns of England. Grimsby lies on the north-eastern coast of Lincolnshire, at the widest part of the mouth of the Humber, facing the sea, and protected by a curve on the Yorkshire side of the river, known as Spurn Point, from all the storms of the German Ocean. The company, having obtained their Act of Incorporation, purchased all the property of an old dock, which had for some time fallen almost into disuse. The promoters of a succession of railways, since amalgamated under the title of the Manchester, Sheffield, and Lincolnshire Railway, made Great Grimsby one of its termini. The company, seeing the importance of executing the works of the docks upon a scale, which would render them a first-rate shipping station, proposed to purchase the Dock Company, and it was accordingly amalgamated with the Manchester, Sheffield, and Lincolnshire Railway. The works were then placed in the hands of Mr. Rendel, the engineer of the Birkenhead Docks, and he was ordered to construct the warehouses on the most complete scale, as a branch, a feeder, and a water station to the railway. The dock works consist of a wet dock on an area of about 35 acres, walled in on the left side by a wharf, 2000 ft. long, 200 ft. wide, and 36 ft. high, having at the extremity a pier of great length—making a waterside quay and pier nearly a mile long. This will be the passenger pier for steamers from Hamburg and the Baltic. The east-side wharfing, which is of the same length and 670 feet wide, will be partly covered with warehouses. The passage to the docks will be through an entrance basin formed by the two piers (area about 20 acres), within which and alongside the piers vessels not required to enter the docks will lie. Thus a steamer may discharge passengers and goods into railway carriages and trucks brought right alongside, and, taking mails and Manchester silk and cotton goods aboard from other trucks, go to sea again all in one tide. The communication between the open tidal basin and the two docks will be effected by two locks. The one, 300 feet long and 65 feet wide, will admit the largest war steamer at any time, except an hour before and an hour after dead low water. The other will be 200 feet long, and 45 feet wide. At the lowest tide there will be six feet of water on the threshhold of the dock gates. All the ordinary class vessels and steamers will find water enough to enter and lie in the basin at any hour. The dock has capacity for accommodating 700 average ships, and the basin 500—in all, 1200. These docks, saving 20 miles of river navigation, and lying 50 miles nearer London than Hull, will always enable passengers and mails to reach the metropolis six hours sooner than by way of Hull.

GUTTA PERCHA.—The vessel *Duke of Bronte*, arrived from Singapore, has brought the very large quantity of 36 bags, 112 bales, 11,347 blocks, and 1934 other packages of this peculiar article of merchandise, as a portion of her cargo, consigned to order; and the vessel *Anne Watson*, also from Singapore, has brought 7402 packages, 120 blocks, and 3 baskets of the article, to order.

A RAILWAY PROJECTOR IN TROUBLE.—Mr. George J. Pitman, an attorney, residing at Barnstaple, appeared for judgment in the Insolvent Debtors' Court, yesterday. He was the promoter, in the railway year of 1845, of the North Devon Extension Railway, and Combe Martin Harbour Refuge Company. He was opposed, on the ground that he had given an undue preference to a Mr. Braithwaite, and, after several examinations, he was now adjudged to an imprisonment of eight calendar months from the vesting order, for giving an undue preference. The debts owing by the insolvent amounted to 8862*l.*, and the debts owing to him 957*l.*

COMPLETION OF THE GREAT CEILING OF ST. GEORGE'S HALL, LIVERPOOL.—This arch ceiling of St. George's Hall has just been completed, and when the centres were removed, the subsidence in the middle was only three-eighths of an inch, though the span of the arch is 75 ft., and the length of the roof 169 ft. The height from the floor is 83 feet. The arch is turned with hollow tile, 12 in. in length and 4 in. square. About 140,000 tiles have been used to construct the arch, and their weight is about 600 tons. It would have required 280,000 bricks to form an arch of the same dimensions, and these would have weighed about 1000 tons; so that 400 tons weight are saved, and equal security attained

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Botanic—Inner Circle, Regent's Park	3½ P.M.
MONDAY	Statistical—12, St. James's-square	8 P.M.
	British Architects—16, Grosvenor-street	8 P.M.
	Chemical—Society of Arts, Adelphi	8 P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
	Pathological—21, Regent-street, Waterloo-place	8 P.M.
TUESDAY	Linnæan—Soho-square	8 P.M.
	Horticultural—21, Regent-street	3 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Geological—Somerset-house	8½ P.M.
THURSDAY	Royal Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
FRIDAY	Royal Institution—Albemarle-street	3½ P.M.
SATURDAY	Asiatic—5, New Burlington-street	2 P.M.
	Westminster Medical—17, Saville-row	8 P.M.

THE TIN MINES OF BANCA.

The period of the discovery of the tin deposits of Banca is not so remote as is generally imagined. From 1700 to 1720 the first workings commenced, which were then insignificant, but as the prolific nature of the strata became known, the produce rapidly increased. Attracted by the prospect of gain, numerous Chinese miners and adventurers resorted to Banca, and, as one source of ore failed, gradually explored and removed to other districts, spreading successively over the island, and selecting the most favourable spots, where a rich store of ore was in the vicinity of a stream of water, to facilitate their labours. After a lapse of 30 or 40 years a gradual diminution of produce was observed in many of the working districts—others were entirely exhausted, and new situations attempted. The most prosperous period of the island, both as regards the supplies of tin obtained, and the general condition of the inhabitants, was during the reign of Sultan Achmád Nádjá Mudin I., or between the years 1750 and 1775: 60,000 piculs, or 120,000 ingots, is but a moderate estimate of the aggregate produce of the mines during this period, and by most persons considered competent to judge, it is supposed to have been much greater. Since the year 1780 a decrease has become more evident, and 30,000 piculs were rarely produced in one year. During the last 15 years the annual quantity has further decreased; the position of the mines elucidates this in a great degree; the ore is deposited in horizontal beds, at a short distance below the surface, and, in former times, were immensely productive; but the inquisitive shrewdness of the Chinese directing them to the most profitable spots, extensive surfaces may be observed in the western and northern divisions of the island, which have been turned up and drained of their wealth, exhibiting the remains of former mines and aqueducts. The process of mining is very simple; it consists in the formation of a pit, or excavation, of a square or oblong form, perforating the ground perpendicularly to the beds containing the tin, which are rarely far below the surface, and in the proper application of a stream of water, to facilitate the labour, and for washing the ore. When once perforated, the miners continue to dig pits in succession from the same surface until the whole is abandoned, in consequence of the exhaustion of the ore; thus, in travelling through the country, surfaces of several square miles are observed, which have been turned up by the process of mining. When a sufficient quantity of ore has accumulated, and been properly washed and dressed, it is subjected to the smelting process, which operation, in favourable seasons, is performed twice a year—in the usual seasons only once, between the months of February and April. It is performed in a spacious open shed, about 75 ft. long, 35 ft. broad, and 24 ft. high in the middle—the upper portion of the roof being separated from the lower by an opening of about 2 ft., to prevent ignition. The central portion of the shed contains the furnace, while the ends are the receptacles for the fuel, ore, and various requisites in the process. The furnace is 10 feet long, 4 feet high, and 4 feet wide; the fireplace occupies the middle portion, descending 3 ft. into the body of the furnace, and beneath is a basin-shaped receptacle, for the refined metal.

The bellows is a large wooden tube, formed out of a single tree, and a piston being worked backward and forward keeps up a continuous stream of air. The sand moulds are placed near the furnace, and when sufficient metal has run, the moulds are filled, 16 ingots being cast at one time, and generally 44 to 45 in a night's work—the work being carried on at that period of the 24 hours, in consequence of the extreme heat of the day. The smelting of the ore, and the preparation of the coals, each requires habit and experience, and are performed by persons who make a regular profession of the business; the smelters are paid by the night, and the coal burners by the basket of coals employed. The facility, however, with which the ore is collected, and the simplicity of the methods of mining, requires, as compared with other mining countries, little assistance from machinery, and the implements in general use are neither numerous or difficult to use, and hence few artificers are required at the mines.

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*		*Price.*	
22,500	Australasia	£40	£3		£23½	
20,000	British North American	50	6		41½	
20,000	Colonial	25	5		19½	
—	Commercial of London	20	6		19	
4,000	Ionian State	25	6		24½	25
20,000	London Joint-Stock	10	5		14½	
20,000	London and Westminster	20	6		24	
10,000	National Provincial of England	35	5		35	
20,000	National of Ireland	23½	5		18½	
20,000	Provincial of Ireland	25	8		40½	40½
4,000	Ditto New	10	8		15	
—	South Australia	22½	—		24	23½
20,000	Union of Australia	25	6		24½	
10,000	Ditto New	2½	6		2	
60,000	Union of London	10	6		10½	

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Lgth. Rway.	Present actual cost.	Price per share	Div. 1848	*Traffic Returns* 1849	1848
Belfast and Ballymena	37½	——	21½	*p. c.*	£ 459	——
Birkenhead, Lancashire, & Cheshi.	19	1,088,804	37	5 *p. c.**	1272	754
Bolton, Blackburn, & West Yorksh.	14	786,384	7½	—	467	—
Caledonian	141	4,865,135	25½	—	——	3419
Chester and Holyhead	84	3,014,602	17½	4	1297	——
Dublin and Drogheda	35½	774,875	33½	—	720	671
Dublin and Kingstown	7½	395,915	——	—	730	819
Dundee, Perth, & Aberdeen Junc.	47½	944,554	24½	8	1048	787
East Anglian (Lynn to Ely)	67½	1,167,104	3	—	633	464
East Lancashire	50	2,628,519	17	5	2084	850
Eastern Counties and Norfolk	309½	12,027,069	9½	4	14622	13701
Eastern Union	80½	1,712,703	13	—	1200	1121
Edinburgh and Glasgow	57½	2,644,378	41½	6	3582	3367
Edinburgh and Northern	78	2,332,115	12½	4*	1921	1188
Glasgow, Paisley, and Ayr	102½	2,286,353	57	4	3017	2010
Glasgow, Paisley, & Greenock	23	848,328	13½	4	1091	947
Gt. Northern & East Lincolnshire	110	4,255,171	11	5*	1851	——
Gt. Southern & Western, Ireland	131	2,844,897	33½	4*	3352	2115
Great Western	305½	11,608,815	94	7	19999	17861
Kendal and Windermere	10½	174,600	25½	—	——	117
Lancaster and Carlisle	70	1,476,102	54	4	——	1489
Lancashire and Yorkshire	296½	9,218,450	72	6	12767	8534
London and North Western	435	25,077,942	134	7	39750	38131
London and Blackwall	4	1,299,675	5½	1-12	719	842
London, Brighton, & South Coast	162½	9,382,281	38½	2½	8903	6795
London and South-Western	216½	7,510,689	36½	6	9959	7958
Londonderry and Enniskillen	14½	171,026	16	—	156	137
Manchester, Sheffield, & Lincolnsh.	91½	6,048,679	37	5	3515	2261
Midland Company	471	14,042,340	75½	6	20899	18816
Midland Great Western (Irish)	50	735,333	23½	4*	1380	1050
North British	99	3,163,450	14½	5	2648	1904
Scottish Central	45½	1,364,228	24	—	1110	——
Shrewsbury and Chester	47	969,618	14½	5	1639	709
South Devon	55½	1,909,232	17	—	1887	885
South-Eastern	165½	6,116,914	22½	6½	8339	7124
Taff Vale	38	879,110	——	6½	2160	1789
Ulster	30	684,684	45½	—	——	837
West Cornwall	13	——	——	——	269	——
Whitehaven Junction	12	180,879	109	3	——	180
York, Newcastle, & Berwick	269	6,827,849	23½	8	11726	10111
York and North Midland	265½	4,983,618	41½	8	6913	7666
FOREIGN RAILWAYS.						
Amiens and Boulogne	76½	573,338	8½	4	1617	1136
Dieppe	36	——	——	—	390	——
Dutch Rhenish	57½	——	——	—	783	855
Montereau and Troyes	71½	——	——	—	708	——
Northern of France	211	2,600,000	11½	—	12850	11032
Orleans to Bourges (Central)	107½	——	——	—	2376	2518
Orleans to Tours	72	600,000	32½	6	3019	2416
Paris and Orleans	82	2,011,730	33½	12½	7807	6295
Paris and Rouen	85	2,083,916	21½	—	6169	2648
Rouen and Havre	59½	——	11½	—	2509	1172
Strasburgh and Basle (monthly)	98	——	6	—	5040	5394
West Flanders ..... (ditto)	—	——	1½	—	997	——

* Interest.—Total for last week, £130,492, being an increase of £34,034 over last year.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 193 4
3 per Cent. Reduced Ann., 91¼ 90¾
3 per Cent. Consols Ann., 92¼ ⅜
3½ per Cent. Ann., 91⅛
Long Annuities, 8⅛ ⅛
India Stock, 10¼ per Cent., 243
3 per Cent. Consols for Acc. 92⅜ ½
Exchequer Bills, 1000*l.* 2d. & 1½d. 50 47 pm.

Belgian, 4½ per Cent., —
Dutch, 2½ per Cent., 50¼ 50
Brazilian, 5 per Cent., 79 6½
Chilian, 6 per Cent., 91½
Mexican 5 per Cent., 29⅝ 30½
Russian, 5 per Cent., 104½
Spanish, 5 per Cent, 18 17⅝
Ditto 3 per Cent., 31½ ½

MINES.—The amount of business transacted during the week has not much improved upon the last.

Several shares in Devon Great Consols have changed hands during the week. We stated in our last, "on the authority of an eminent practical mining agent, who has recently inspected the mines, that upwards of 60,000*l.* worth of ore is in sight"—it should have been "60,000 tons;" which, calculated at the price the last parcel realised, will amount to 390,000*l.* We learn that improvements have since taken place in Anna Maria and Wheal Fanny. At Wheal Emma, the engine-shaft is down 20 fathoms, in highly favourable ground for sinking.

South Wheal Frances, Wheal Basset, West Buller, East Pool, and Condurrow have been in request during the week. Lewis, Trelawny, and Tincroft have been sought for at former quotations, and some business done. East Tamar is reported to have improved, and a few shares changed hands.

Shares in the following mines have changed hands since our last:—Devon Great Consols, Treviskey and Barrier, Trelawny, Trehane, Bedford United, East Tamar, South Tamar, Kingsett and Bedford, Wellington, West Tolgus, Stray Park, Condurrow, Mary Ann, Tincroft, Tamar Consols, South Molton, and Kirkcudbrightshire.

At the Tincroft annual meeting the statement of accounts for Nov., Dec., and Jan., showed a profit on the three months' working of 1156*l.* 3*s.*, carrying a balance of 946*l.* to the credit of the next account; during that period the sales of copper and tin realised 8182*l.* 6*s.* 4*d.* The directors' and manager's reports, which are given in detail in another column, are perspicuous, and highly gratifying to the proprietary. A vast extent of valuable ore ground is laid open, and more continued to be developed—the laudable object of the directors being to have a continuous dividend-paying mine, instead of immediate large profits with little reserve. We consider much credit is due to them for their steady perseverance and ability in the management during the almost insurmountable oppression for the past two years, arising from the unprecedented depressed state of the copper and tin market. We find that, notwithstanding the many difficulties, an extra outlay of 1200*l.* for necessary erections have been expended, and that dividends may be expected in about two months. It is estimated that 100,000*l.* worth of ore is discovered.

At the Drake Walls meeting, the statement of accounts, made up to the end of last December, showed an expenditure of 10,502*l.* 11*s.*; while the receipts were 10,177*l.* 18*s.* 2*d.*: leaving a small debtor balance of 324*l.* 12*s.* 10*d.* The reports from the different works were, in general, satisfactory; and it is expected that, when the workings are fully developed, a profit of 400*l.* to 500*l.* monthly may be realised. The workings had been visited by Mr. P. N. Johnson, who was of opinion that, in order to make them profitable, operations should be carried on on a large scale. The general body of the shareholders coincided in this opinion, and expressed their confidence in the management of the board of directors.

At the Wheal Seton meeting the accounts for Jan. and Feb. were audited. The balance-sheet shows a loss of 271*l.* 11*s.*, the amount of costs for the two months being 3000*l.* 9*s.*, and the returns 2728*l.* 18*s.* A balance of 440*l.* was brought from the previous account, and 169*l.* 3*s.* carried to the credit of next account.—[We have not received the report of the mine, which we hope to give next week.]

At a meeting of shareholders arrangements were made for resuming the East Godolphin Mine. The sett is divided into 256 shares, and a call of 50*s.* per share made, for the purpose of erecting an engine of adequate power, and other requisites, and sinking a new engine-shaft—the management being placed in the hands of Mr. Vawdrey.

At the Wheal Calstock meeting the accounts for the past seven months were audited and passed; a call of 1*l.* per share was made, to pay off the liabilities. The agent's report of the operations and prospects of the mine is highly satisfactory. From 40 to 50 tons of ore appear to have been broken from a bunch found in the 50 fm. level, and about 100 fms. in length of ore ground laid open. An additional piece of ground has been obtained, which will form a valuable adjunct to the property, inasmuch that several buildings and other necessary work is already there. The further requisite machinery is to be erected directly.

The Southern and Western Mining Company of Ireland meeting, which was adjourned from the 19th March, is convened for to-day, in the city of Cork, for the election of four directors, receiving report, auditing accounts, and general business of the company. We are glad to hear that the directors have some good news to communicate to the shareholders.

Dispatches have been received by the St. John del Rey, Imperial Brazilian, National Brazilian, and Copiapo Mining Companies.

The St. John del Rey letters are to the 7th Feb. The returns for January give a profit of 3984*l.* 2*s.* 8*d.*, the net produce being 20,298 oits. The agent's report of the mine is satisfactory, and represents the present prospects indicative of progressive improvements.

The Imperial Brazilian dispatches are to the 13th February. The returns from Gongo, from Jan. 28 to Feb 12, amount to 12 lbs. 1 oz. 1 dwt.; from Bananal, ditto, 14 lbs. 9 ozs. = 26 lbs. 10 oz. 1 dwt.—making a total since Jan 1, of 42 lbs. 5 ozs. 1 dwt. The agent's report conveys very little information of a cheering character, and which, we regret to say, will be found corroborated in an extract from a private letter, inserted in another column.

The National Brazilian letters advise the returns from Cocaes for 10 days from the 3d to the 13th February, at mks. 10 2 7 60, and Cuiaba, from the 3d to the 6th February, at mks. 1 7 6 65. The manager's report of the mine conveys the expectation of shortly meeting with a rich deposit of gold at the point where the Bandeira and Cocaes veins form a junction.

The Copiapo letters are to the 31st January, furnishing the returns for the month of December, which appear to be about 55 tons of copper. The agent, in referring to the operations at the Checo Mine, advises of a considerable improvement in a winze in the 12 fm. level, west of the new shaft, from whence during the past week several tons of rich ore had been raised: whilst the lode was progressing in size without diminishing in quality. Preparations were making to drive the 20 fm. level, to communicate with the winze. The Esperanza Mine is producing a large quantity of copper, but not of sufficient richness for transmission, averaging only from 10 to 12 per cent. In the San Pedro mines they are only stoping the 5 and 10 fm. levels, which are paying costs. The silver mines are represented to be in a highly productive position, especially the San Jose del Carmen, in which the lode is large and rich, the produce estimated at 600*l.* and 800*l.* per ton. At Alfin Hallada the vein has been disordered by a slide; but an improvement has followed, and bids fair to become productive. The Carmen Alto Mine is highly spoken of, and a large deposit of silver is expected at a point where a junction of four lodes takes place, which will be intersected by a level extended from a depth of 15 or 20 fms. The Mercedite Mine is producing silver from a vein of 18 in. wide, half of which is good work. Operations will shortly be commenced on the other silver and gold mines recently secured by the company. The returns for the month amount to 36 tons, 4½ of which belongs to the company.

The shares in foreign mines have not been in that request we generally notice; the principal transactions appear to be in St. John del Rey, Copiapo, which maintain present quotations, United Mexican, Imperial Brazilian, Guadalcanal, and Bolanos have been done, but at rather lower rates. In North British Australasians, there is a greater demand, at last quotations, than can be obtained at present. This company, as we stated last week, possesses one-third of Bon Accord section; and, in reply to several applications, we have since learned, that "the Bon Accord property consists of 347 acres, not divided into lots; but the produce, or profit, to be equally divided among the three proprietors; it is of greater extent than the Burra Burra, stretching beyond it on the north and south. The great shaft of the Burra Burra is within 100 yards of the boundary line; and another shaft is being opened still nearer to it; but they have never allowed the Bon Accord people to see their works." We stated, last week, that about a ton of superior copper had been sent home from the Bon Accord Mine. We have since learned, that we were misinformed; and that the ore is from a mine called Warra, or Warra Coora, about 25 miles from Adelaide; and the manager, in a recent communication, states that it is progressing favourably; but no great quantity of ore has been raised from it yet.

The following arrivals of specie have taken place since our last:—The Peninsular and Oriental Steam Company's ship, *Sultan*, arrived at Southampton on Saturday, having on freight 98 packages of specie, valued about 100,000*l.* The Royal Mail Steam Company's ship, *Clyde*, arrived at Southampton, on Sunday night, with the British and foreign West India mails, and also mails from the west coast of South America, brought to Panama by the *New Granada*, which vessel is reported to have on board, for transmission to England, treasure to the value of $642,027. The *Clyde* brought on freight silver, in dollars and bars, value $500,407; gold-dust and coin, value $326,697; British coin, 701*l.*: total value, 166,000*l.*

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars .... per oz.	£3 17 9	New dollars ..... per oz.	4 0 10½
„ Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11½

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	8 ..	3
1024	Alfred Consols	8½ ..	7½
1000	Antimony & Silver-Lead	5 ..	5½
1024	Ashburton United Mines	8½ ..	11 12
1024	Balleswidden	9 ..	18
128	Balmoon Consols	42½ ..	50
10000	Banwen Iron Co.	6 ..	6
1000	Barristown	5½ ..	1½ 2
4000	Bedford	2½ ..	2½ 3½
1244	Birch Tor Tin Mine	9 ..	5 5½
8000	Blaenavon	50 ..	12½
100	Botallack	182 ..	27 27½
120	Brewer	5 ..	7
10000	British Iron, New, regis.	12 ..	6
—	Ditto ditto, scrip	10 ..	10
128	Budnick Consols	54½ ..	35
1000	Callington	20 ..	10 12
1000	Camborne Consols	5 ..	5½
20000	Cameron's Steam Coal	0 ..	1
256	Caradon Copper Mine	9½ ..	1½
256	Caradon Mines	22½ ..	10
256	Caradon United	24 ..	5 8
256	Caradon Wh. Hooper	21 ..	4½
4000	Carn Brea	15 ..	95 100
3000	Carthew Consols	1½ ..	5
114	Charlestown	220 ..	—
500	Combiawn	5½ ..	4½
128	Comfort	45 ..	80
256	Condurrow	20 ..	90 95
2560	Cook's Kitchen	14 ..	2½ 3
1000	Coombe Valley Quarry	3½ ..	4½
1000	Copper Bottom	5½ ..	6½
212	Craddock Moor	23½ ..	5
128	Creeg Braws	120 ..	30
500	Cubert Mine	12½ ..	—
1000	Cwm Erfin	3 ..	3 4
300	D. Prior & Buckfastleigh	— ..	—
7100	Derwent	8½ ..	5
845	Devon & Courteenay Con.	7⅜ ..	⅜
1024	Devon Great Consols	1 20	5 10
1000	Dinarvale	2 ..	5
186	Dolcoath	30 ..	15
2560	Drake Walls	5½ ..	4 5
10000	Durham County Coal	40 ..	9
3000	Dyngwm	10 ..	12½
512	East Aiveauney	5½ ..	5½
2300	East Birch Tor	3 ..	3½
112	East Caradon	47 ..	47
2048	East Crowndale	6½ ..	4
512	East Combe Silver-Lead	6½ ..	6½
128	East Pool	15 ..	75 80
9000	East Tamar Consols	⅛ ..	⅛ ¼
94	East Wheal Crofty	125 ..	65 70
1024	East Wheal Fortune	2 ..	3
128	East Wheal Rose	50 ..	600
—	East of Scotland Iron Co.	5 ..	1½
123	East Wheal Seton	14 ..	10
1280	Esgair Lit	1½ ..	2½ 3
248	Exmoor Wh. Eliza	6 ..	6
494	Fowey Consols	40 ..	45
1024	Fraidd Llwydd Mines	1½ ..	3½
6400	Gadair	2 ..	3
4000	Gen. Mining Co. for Irel.	1½ ..	1½
256	Gonamena	44½ ..	16
128	Goonvrea	4 ..	2
256	Grambler & St. Aubyn	80 ..	10 20
100	Great Consols	1000	190 200
512	Gt. Wh. Rough Tor Con.	18½ ..	14
2000	Grows Slate Company	5 ..	5
256	Gwinear Consols	7 ..	1
6000	Heiguston Down Con.	1½ ..	1½ 1⅝
256	Herodsfoot	27 ..	15
10000	Hibernian	12½ ..	1⅜
239	Hobb's Hill	6 ..	1½
1000	Holmbush	22 ..	5
1024	Kingsett and Bedford	⅜ ..	3½ 4
847	Kirkcudbrightshire	3½ ..	3 4
2048	Lamberroo Wh. Maria	13 ..	2
252	Lanarth Consols	— ..	4
128	Leiant Consols	90 ..	40
160	Levant	—	180 200
1000	Lewis	16 ..	10½
1000	Llwyn Malees	7½ ..	5
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols	19 ..	14
6000	Marke Valley	10 ..	⅜ ½
8000	Mendip Hills	3 ..	1½
128	Metha	34 ..	140
20000	Mining Co. of Ireland	7 ..	4
256	New East Crowndale	3⅜ ..	2½
100	North Pool	45 ..	650
140	North Roskear	5½ ..	150
262	North Wh. Leisure	1½ ..	2
15000	Northern Coal Co.	2⅜ ..	2
128	Par Consols	55⅝ ..	800
8000	Pennant & Craigwen	2 ..	2
1024	Penzance Consols	18s 3d	3
512	Plymouth Wh. Yeoland	6½ ..	6
200	Polsalth Consols	5½ ..	4½
2500	Rhosaddel & Bachcidon	10 ..	10
10000	Rhymney Iron	50 ..	13
10000	Ditto New	7 ..	6½
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
2048	Runnsford Coombe Tin	⅜ ..	12
9000	South Tamar	⅛ ..	⅛ 1
128	South Caradon	5 ..	400
1100	South Dolcoath	4 ..	5
256	Sth. Friendsh. Wh. Ann	20 ..	4

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	South Molton	5 ..	15 17½
256	South Tolgus	14 .	50 55
256	South Treiawny	28½ ..	2 3
2000	South Wales Mining Co.	⅛ ..	1 1½
128	South Wheal Basset	20½ ..	270
124	South Wh. Frances	160 ..	230 40
256	South Wh. Josiah	— ..	3
1000	South Wh. Maria	2½ ..	1½
10000	Southern & Western, Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols	9 ..	—
94	St. Ives Consols	— ..	70 90
128	St. Michael Penkivel	5 ..	10½
999	St. Minver Consols	1 ..	6
1000	Stray Park	43 ..	17 17½
9600	Tamar Consols	3 ..	6 ¼
1024	Tavy Consols	6 ..	1½ 2
6000	Tincroft	7 ..	11
1000	Tin Vale	2½ ..	2½
58	Tokenbury	170 ..	10
256	Tregordan	2 ..	8
256	Trehane	1½ ..	25 26
5000	Treleigh Consols	6 ..	1⅝ 2
2000	Tremanica	3 ..	—
96	Tresavean	10 ..	150
120	Trethellan	5 .	15 16
120	Treviskey and Barrier	130 ..	88 93
288	Trevean	1½ ..	5
100	United Mines	300 ..	200
256	Wellington Mines	25 ..	40 45
128	West Buller	10 ..	280 290
256	West Caradon	20	110 115
512	West Fowey Consols	40 ..	12
256	West Providence	9 ..	15
200	West Seton	40	225 230
—	West of Scotland Iron Co.	240 ..	90
120	West Trethellan	5 ..	25
256	West United Hills	— ..	4½
512	West Wheal Frances	1½ ..	2
256	West Wh. Friendship	9 ..	8
3725	West Wheal Jewel	11 ..	⅛ 1⅛
256	West Wheal Tolgus	80 ..	14 15
256	West Wheal Treasury	19	4½ 5⅛
1024	Whiddon Mines	4⅛ ..	2
5200	Wicklow Copper	5 ..	8½
107	Wheal Adams	79 ..	30
1000	Wheal Agar	— ..	8
256	Wheal Albert	10 ..	1
240	Wheal Anderton	25½ ..	29½
128	Wheal Ann	— ..	50½
512	Wheal Anna Maria	6½ ..	8
1024	Wheal Ash	4½ ..	8
120	Wheal Bal	5½ ..	15
256	Wheal Benny	14½ ..	2
256	Wheal Blencowe	21 ..	5
256	Wheal Buckets	20 ..	8
252½	Wheal Calstock	9 ..	15
1024	Wheal Coad	1 ..	4
268	Wheal Courtenay	12½ ..	15
256	Wheal Fortescue	6½ ..	—
388	Wheal France	27 ..	13½
128	Wheal Harriet	45 ..	—
100	Wheal Henry	— ..	20 5
112	Wheal Margaret	79 ..	200
512	Wheal Mary Ann	5 16½	17½
208	Wheal Mary Consols	60½ ..	8
—	Wheal Penhale	— ..	12
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	41 ..	150
128	Wheal Rose	60 ..	3
99	Wheal Seton	214	550 600
180	Wheal Sisters	35½ ..	5
494	Wheal Sophia	4½ ..	5
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	30 ..	35
550	Wheal Trescoll	7 ..	10
260	Wheal Trelawny	7½ ..	80
256	Wh. Trenialne (St. Ervan)	9½ ..	2½
1024	Wheal Tremayne	9½ ..	3
92	Wheal Tryphena	140 ..	265
1000	Wheal Vincent	2 ..	7
256	Wheal Vlow (Perranz.)	⅛ ..	⅛
184	Wheal Vyvyan	— ..	60
250	Wheal Williams	28⅜ ..	8
1024	William & Mary Worth	2 ..	2½

FOREIGN MINES.

5000	Alten Mining Company	14½ ..	2½
15000	Asturian Mining Co.	15 ..	3½ ¼
20000	Australian	3 ..	5½
10000	Anglo-Mexican Co.	100 ..	¼
12374	Ditto Subscription	25 ..	1½
6000	Barossa Range	1⅜ ..	2 2½
3000	Bolanos	120 ..	2
2000	Ditto Scrip	1⅛ ..	2½ 3½
10000	Brazilian Imperial	23 ..	4
12000	Cobre Copper Co.	40 ..	22 23
10000	Copiapo Mining Co.	14 ..	4 4½
20000	General Mining Ass'n.	20 .	13
4000	Guadalcanal	5 ..	10 12
5000	Kinzigthal Mining Ass.	2 ..	3
6051	Mexican Company	5½ ..	—
2000	Mexican & South Amer.	8 ..	1 1½
5000	National Brazilian	30 ..	3½ ⅝
104000	N. Brit. Australasian	1 ..	8s 9d
7000	Royal Santiago	10 ..	3½
11000	St. John del Rey	15	11½ 12
13174	United Mexican	Av. 28½ ..	3½ 4

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, APRIL 13, 1849.

ENGLISH IRON. *a*	*per ton.*		
Bar, bolt, & square, London	£7 0 0		
Nail rods	7 10 0		
Hoops	9 17 6—9 0		
Sheets (singles)	9 15—10 0		
Bars, at Cardiff & Newport	6 0 0		
Refined metal, Wales*	4 7 6		
Do. anthracite*	4 7 6		
Pig, No. 1, Wales, cold-blast	4 0—5 0		
Do. do. hot-blast	3 15 0		
Do., No. 1, Clyde ... *net cash*	2 8 0		
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	4 7 6		
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0		
Stirling's Patent in Glasgow	3 3—3 6		
Toughened Pigs in Wales	4 0—4 15		
Staffordshire bars, at the works	7 10 0		
Pigs, in Staffordshire	3 0—3 15		
Rails	5 15—6 0		
Chairs	4 10 0		
FOREIGN IRON. *b*			
Swedish	12 10—13 0		
CCND	17 0 0		
PSI	—		
Gouriefl	—		
Archangel	12 10-13		
FOREIGN STEEL. *c*			
Swedish keg	14 15 0		
Ditto faggot	15 0—15 10		
ENGLISH COPPER. *d*			
Sheets, sheathing, & bolts, *p. lb.*	0 0 10		
Tough cake	*per ton* 88 10 0		
Tile	87 10 0		
Old copper *e*	*per lb.* 8½*d*		
FOREIGN COPPER. *f*			
South American, in bond	£73—75		
ENGLISH LEAD. *g*			
Pig	*per ton* £16 0—16 5		
Sheet	16 15—17 0		
Red lead	17 10 0		
White ditto	22 0 0		
Patent shot	19 15 0		
FOREIGN LEAD. *h*			
Spanish, in bond	15 5—15 10		
American ditto	—		
ENGLISH TIN. *i*			
Block	*per cwt.* 4 9 0		
Bar	4 10 0		
Refined	4 16 0		
FOREIGN TIN *k*			
Banca, in bond	4 14 0		
Straits	4 12 0		
Peruvian (6 mo 2½ p. ct. dis.)	—		
TIN-PLATES. *l*			
IC Coke	*per box* 1 9 0		
IC Charcoal	1 12 6		
IX ditto	1 18 6		
SPELTER. *m*			
Plates, warehoused	*per ton* 16 5 0		
Ditto, to arrive	15 15 0		
ZINC. *n*			
English sheet	*per ton* 22 0 0		
QUICKSILVER *o*	*per lb.* 0 3 4½		

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis.; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

* Cold-blast, free on board in Wales.

REMARKS.—We have no change to report in the iron trade this week. The demand has been very limited for every description, and prices are less firm, particularly for bars in Wales. Very little business has been done in Scotch. Sales of mixed Nos. have been made at 47*s.* We quote the price to-day 47*s.* to 48*s.* for mixed Nos., ordinary brands, and 48*s.* 6*d.* for Gartsherrie. In spelter, several parcels have changed hands during the week, at from 15*l.* 15*s.* to 16*l.* 5*s.* on the spot.

GLASGOW, APRIL 12.—The pig-iron market has been very quiet this week. There has been less disposition shown to purchase, and prices have gone a shade lower than our last quotation. The price may to-day be quoted at 48*s.* for mixed Nos., cash.

The shipments for the last month show a large decrease as compared with last year. Comparitive exports of pig-iron in March, for the past four months:—

	1846.	1847.	1848.	1849.
From Broomielaw ..... *Tons*	11,326	12,734	15,861	17,914
From Port Dundas and Kirkintilloch	12,657	14,917	20,417	4,755
Total	23,983	27,641	36,278	22,669

LIVERPOOL, APRIL 13.—There has been less demand for manufactured iron throughout this week, and prices are a shade easier for the buyer. The markets, however, both in Wales and Staffordshire, maintain their prices firmly. Scotch pigs continue to decline, and 47*s.* per ton cash has been accepted for mixed Nos., f. o. b., at Glasgow. For Gartsherrie, 1*s.* per ton extra is asked, though shipments from Glasgow were 22,660 tons last market against 36,278 tons in March, 1848, showing a falling in the exports in that period of nearly 14,000 tons, whilst the production has considerably increased. The stock is now computed at 147,000 tons, being an increase of 47,000 tons during this year. The demand for tin-plates is slack, without any change in price. We have no alteration to notice in lead or copper.

LEAD ORES

Sold the 6th April.

Mines.	*Tons.*	*Amount.*	*Purchasers.*
Pentire Glaze	45	£10 14 0	Sims, Willyams, & Co.
ditto	5	7 2 0	ditto
Sold at Aberystwith 7th April.			
Llwynmalees	12	11 11 0	Newton, Keates, & Co.
Amount of money		£138 12s.	
Sold at Bopilly.			
Douglas	40	£ 9 18 0	Walker, Parker, & Co.
Peel	20	10 3 0	Mather & Co.
Cairnsmore	45	9 12 0	ditto
Machynlleth	38	10 10 6	Walker, Parker, & Co.
Conlig	47	9 18 0	ditto

BLACK TIN

Sold to the Mellanear Company on the 7th April.

Mines.	*Tons c. qr. lbs.*	*Price per ton.*	*Amount.*
Wheal Bal	1 0 2 27	£30 0 0	£51 17 0
ditto	0 15 2 4	45 10 0	35 6 10
ditto	0 2 0 11	20 0 0	2 1 4

Total—1 ton 18 cwts. 1 qr. 4 lbs.—Amount of money, £89 5*s.* 2*d.*

COPPER ORES.

Sampled March 28, and Sold at Andrew's Hotel, Redruth, April 12, 1849.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Carn Brea	97	£4 14 6	Par Consols	72	£5 19 0
ditto	95	8 4 6	ditto	70	3 4 6
ditto	91	9 0 6	Wh. Agar	103	2 6 6
ditto	87	10 4 0	ditto	49	3 18 0
ditto	85	3 16 0	ditto	28	6 8 6
ditto	81	5 6 0	West Wh. Treasury	94	5 10 0
ditto	77	10 1 6	ditto	62	4 15 0
ditto	74	4 18 0	Wh. Tremayne	82	3 16 0
ditto	70	5 18 6	ditto	53	1 17 6
ditto	54	4 16 0	West Wh. Seton	91	6 11 6
ditto	52	4 19 0	ditto	32	6 3 6
ditto	27	2 1 6	Wellington Mines	57	7 13 0
Tywarnhayle	126	4 16 6	ditto	47	4 4 6
ditto	80 ..	3 0 6	ditto	10	16 5 0
ditto	62	8 12 6	West Wh. Buller	72	9 10 0
ditto	35	3 17 6	ditto	38	9 8 6
ditto	32	3 11 6	St. Ives Consols	25	6 13 0
ditto	27	5 13 0	ditto	1	35 7 6
Nancekuke	48	5 5 0	Wh. Trenwith	17	8 10 6
ditto	23	2 0 6	Wh. Pleasant	17	5 0 6
ditto	15	4 2 0	Godolphin	5	3 0 6
Par Consols	106	9 14 6	Wh. Brook	2	2 10 0
ditto	76	6 5 0			

TOTAL PRODUCE.

Carn Brea	890	£3826 8 6	Wellington Mines	114	£797 2 6
Tywarnhayle	448	2147 7 0	West Wh. Buller	110	1042 3 0
Nancekuke			St. Ives Consols	26	201 12 6
Par Consols	324	2161 16 6	Wh. Trenwith	17	144 18 6
Wh. Agar	180	603 2 6	Wh. Pleasant	17	85 8 6
West Wh. Treasury	156	811 10 0	Godolphin	5	15 2 6
Wh. Tremayne	135	410 19 6	Wh. Brook	2	5 0 0
West Wh. Seton	123	795 18 6			

Average Standard ..... £104 14 0 | Average Produce 8¼

Average Price per ton £5 18 0

Quantity of Ore ..... 2547 tons. | Quantity of Fine Copper, 210 tons 12 cwts.

Amount of Money £15,048 10 0

LAST SALE.—Average Standard ..... £106 13 0.—Average Produce 7⅞

Standard of corresponding sale last month, 104*l.* 12*s.*—Produce, 8¼.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	194	£866 7 3
Vivian and Sons	498	3540 18 0
Freeman and Co.	374	1925 12 0
P. Grenfell and Sons	384	2241 9 0
Williams's Crown Copper Company	36	342 0 0
Sims, Willyams, and Co.	554	2365 1 3
Williams, Foster, and Co	461	3467 19 3
Schneider and Co.	46	299 3 3
Total tons	2547	£15,048 10 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria 1302—Fowey Consols 324—West Caradon 305—Marke Valley 241—Wheal Friendship 213—Bedford United Mines 114—Holmbush 83—Wheal Pink 55—South Wheal Fortune 49—Wheal Bucketts 40—Phœnix Mines 15.—Total, 1741 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—United Mines 1283—Par Consols 376—Wheal Comfort 271—South Caradon 244—Wheal Henry 240—Tresavean 177—Treleigh Consols 115—Wheal Banns 73.—West Wheal Jewel 70—West Trethellan 31—Wheal Brewer 14—East Downs 9—North Downs 8.—Total quantity to be sold, 2911 tons.

COPPER ORES

Sampled March 21, and Sold at Swansea, April, 12, 1849.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	110	13¾ ..	£10 15 6	Santiago	57	14½ ..	£11 4 0
ditto	106	13½ ..	11 3 6	ditto	30	22½ ..	18 1 0
ditto	105	13½ ..	10 18 6	ditto	29	26½ ..	22 1 0
ditto	101	13½ ..	10 18 6	ditto	5	61 ..	45 0 0
ditto	100	13½ ..	10 15 6	Berehaven	122	9½ ..	7 14 0
ditto	107	14½ ..	10 17 6	ditto	102	10½ ..	8 4 6
ditto	105	13½ ..	10 10 6	ditto	92	10½ ..	8 1 6
ditto	104	13½ ..	11 2 0	Gibarra	71	13 ..	10 14 6
ditto	103	13½ ..	10 11 0	Kapunda	34	22½ ..	18 2 6
ditto	94	13½ ..	10 5 0	ditto	30 ..	21½ ..	18 20 0
Santiago	95	14½ ..	11 5 0	Chili	48	27½ ..	22 2 6
ditto	78	22½ ..	18 3 0	Holden Slag	24	3½ ..	1 18 0
ditto	59	22½ ..	18 4 0				

TOTAL PRODUCE.

Cobre	1035	£11155 8 0	Kapunda	64	£1159 5 0
Santiago	353	3602 12 0	Chili	48	1062 0 0
Berehaven

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"W. H." (Leeds).—The contract for erecting the gas works at Hamburg was granted to Messrs. Malam, Parker, Cronskill, and Co., for the sum of 150,000*l*. This was to include laying down the mains, and the services 20 feet from them. They had, at the same time, the right of supplying the town with gas fittings, according to a tariff approved of by the Senate.

"J. D." (Manchester).—No patent has yet been taken out for any apparatus that will enable the wearer "to go into the midst of a burning fire." In the year 1823, A. Deane took out a patent for an apparatus to enable persons to enter rooms filled with *smoke*, for the purpose of extinguishing fire or saving lives; but this apparatus was not *fire-proof*. In 1825, Mr. Roberts invented a smoke-proof dress, which was rewarded by the Society of Arts, of which a modification has recently been brought forward as a new invention—[*vide* last number of the *Mechanics' Magazine*]. An apparatus, on Deane's principle, is kept at the principal station of the London Fire-engine Establishment, in Watling-street, which is occasionally used for entering vaults and cellars, where the smoke would otherwise prevent the application of effectual means of extinguishing fire therein. Some 20 years since, the Chevalier Aldini exhibited a *fire-proof* dress, composed entirely of woven amianthus (asbestos), which completely protected the wearer from the ill effects of *fire*, but not from *smoke*, and did not appear to present any practical advantages, while the encumbrance retarded the free motions of the wearer to a great and objectionable extent.

"An Enquirer" (Basingstoke).—Eisleben, in Prussia, is one of the principal seats of the copper production of that country. It is famous for being the birthplace of Martin Luther, who, previous to his becoming a friar, was a working miner here. The house is still shown where he was born.

"Veritas" (Newcastle-on-Tyne).—We are as little disposed to encourage imposture, either in chemical preparations or mechanical productions, as our correspondent can be; but it is not our province to analyse the motives of parties who forward to us advertisements, or the nature of the articles advertised. We believe the "Patent Alkali Company" to be so called from employing a new method of manufacturing soda and potash, for which a patent was secured, and which we think perfectly justifies the title; besides, "Veritas" should see they only advertise a new description of paint, and not their alkalies.—With respect to the washing liquor, we have, since the receipt of our correspondent's letter, had some of it tested, a brief notice of which appears in another part of the Paper. We believe, notwithstanding there may be no "new discoveries in alkaline detergents," that there are many substances which, by proper mixture and manufacture, would be far superior to any of the present known alkaline compositions for washing articles of linen, cotton, &c., which are not greatly soiled with grease;—such as the generality of household linen.

"Smelter" (Cardiff).—Asbestos bottoms have been used in reverberatory furnaces for the smelting of copper. It did not, however, melt as silex or lime, but became, when fusible, like glue, and could not be hardened. When the charge was laid on the bottom, it adhered to it, and bottom and charge had to be drawn out in stiff lumps.

"Anglo-Chilian's" letter has been received, and will appear next week, when we expect to give the particulars he desires.

"Fire-Damp" (Warrington).—One of the most dreadful explosions ever known in former times, occurred at the colliery of Fatfield, in the parish of Chester-le-Street, about 3 o'clock in the morning of the 18th of August, 1708. Sixty-nine persons were blown up in the air in an instant. The shaft was 57 fathoms deep, and a man and woman who were at the bottom were blown quite up from it. Dr. Charlett, a writer of that day, thus describes it:—"It is necessary in these pits for the workmen to have a supply of fresh air. As the air goes down in one pit, it ascends in the other; but it happened in this colliery there was a pit which stood in an eddy, where the air had not always a free passage, and which, in hot and sultry weather, was much subject to sulphur; and it being then the middle of August, and some danger apprehended from the closeness and heat of the season, the men were withdrawn from their works in that pit, and turned into another. But an overman, some days after this change, and upon some notion of his own, being induced, as is supposed, by a fresh, frosty, breeze of wind, which always clears the works of all sulphur, had gone too near the pit, and had met the sulphur just as it was purging and discharging itself, upon which the sulphur immediately took fire by his candle, and so he proved the occasion of the loss of himself and so many men, and of the greatest fire that was ever known in these parts."

"A Reader" (Islington).—Phosphorus was first discovered in 1669, by Brandt, a merchant of Hamburg. He obtained it while endeavouring to extract from human urine a liquid capable of converting silver into gold. Kunkel was the first German chemist who prepared and exhibited it there. It was first introduced into England by the Hon. Robert Boyle, so well known for his chemical researches.

"A. B." (Alston).—Rule's miner's quadrant can be obtained of Mr. Cary, 81, Strand.

"A Secretary" (Broad-street).—We have no doubt, from the communication forwarded to us, that you have been unfairly treated by your co-partners. After the arrangement had been made for the royalties, previous to advancing money for the sett, an agreement should have been drawn up, specifying the interest to be held by each party; in such case the lion's share might have fallen to your lot. It is an unfortunate oversight. By exposing the parties no redress could be obtained. Such cases, unfortunately, are of too frequent occurrence; and did we notice every dispute and complaint forwarded to us, we should require a paper double the present size.

"D. F." (Penzance).—Cadmium was discovered in the year 1817, by Professor Stromeyer, of Gottenger.

"A Blaenavon Shareholder."—We know nothing of the facts of the case, only from the information conveyed through the *Mining Journal*, about 12 months since, and the discussion which ensued thereon. At all events, we should say, the information from Mr. T. Deakin came "better late than never;" and "A Shareholder" acknowledges Mr. Deakin was right; but ought to have communicated the circumstance many years before. Our impression is that, in some of his letters, he distinctly states he *did* call attention to the manner in which the coals were worked; but was always put down, or *worked* for his pains. We should, however, much like to be informed by "A Shareholder," if he can do so, what were the man ager, the sub-managers, the coal viewers, overlookers, &c., about, to suffer a system to go on for years, by which the best furnace coals were left behind, and inferior ones used, by which the iron was deteriorated, and the directors allowed to slip through their fingers about 10,000*l*. per annum of what ought to have been divided among the shareholders?

"Miner" (Redruth).—All measurements in the Scandinavian mines are made by the "Lagter," which is subdivided into sixteenths. It is 6 feet 6 inches in length.

A. Dufaure (Paris).—The zinc of commerce is procured from the native sulphuret and from calamine, by the following process:—The ore is picked and broken into small pieces, and then submitted to a dull red heat, in a reverberatory furnace, by which means carbonic acid is driven off from the calamine, and sulphur from the blende. It is then washed, ground, and thoroughly mixed with one-eighth of its weight of powdered charcoal. The mixture is then put into large earthen pots, something similar in shape to oil jars, six of which are usually placed in a circular furnace. Each pot has an iron tube, passing from its lower part through the floor of the furnace, and dipping into water; they are everywhere else firmly closed. Upon the application of a red heat, the metal distils through the tube into the water beneath, where it is collected, melted, and cast into cakes.

"A working Cutler" (Sheffield).—The steel in Germany to which the appellation of natural steel is given, consists of the following proportions:—Iron, 97·54; manganese, 2·16; carbon, 1·00.

"A Subscriber."—We think an engineer and ironfounder of persevering and industrious habits, with a few hundred pounds, by going prudently to work, could not avoid realising an independence in a few years. He must, however, not be above any of the branches of the iron trade, but unite the business of a common smith with that of bell-hanger, locksmith, &c.; and, if an ingenious man, would soon work his way up, until he might choose whether he should confine himself to engineering, or otherwise. Mills and machinery are increasing with the population, and the extension of mining operations will alone require a considerable amount of engineering force in the colony. The best work we know on the subject is Dutton's *Australia and its Mines*, which may be had at Weale's, High Holborn. There have also been lately published *South Australia its Resources and Advantages*, by G. B. Wilkinson, & Chauncy's *Guide to South Australia*.

"An Engineer" (Newcastle-on-Tyne).—Blanco de Garray, a Catalonian mariner, by some is supposed to have been the first discoverer of the steam-engine. An experiment was tried, by order of the Emperor Charles V., on the 17th of June, 1543, in the presence of Don Henry de Toledo, Don Pedro de Cardova, Rovagos, the treasurer, and several others, in the harbour of Barcelona. The vessel in which the experiment was tried, was the *Trinity*, of 200 tons burthen. The machinery was concealed from the commissioners. All that could be discovered during the trial, was that it consisted of a large boiler, containing water; that wheels were attached to each side of the vessel, by the revolution of which it was propelled. The report approved of the invention, particularly on account of the ease by which the vessel could be put about. It was never tried a second time, much less brought into practical use.

"C. A." (Croydon).—During the last century there were extensive iron-works at Cuckfield, in Sussex. They were abandoned on account of a deficiency in the supply of fuel.

George Hanson (Birmingham).—The metals are arranged as to ductility in the following order:—Gold, silver, platina, iron, copper, zinc, tin, lead, nickel, palladium, and cadmium. According to Guyton Morrean, their tenacity—that is, their capability of supporting weight—is as follows:—A wire 787 of a line in diameter will support, of iron, 549·259 lbs. avoirdupois; copper, 302·218 lbs.; platina, 274·320 lbs.; silver, 187·137 lbs.; gold, 150·763 lbs.; zinc, 109·540 lbs.; tin, 54·636 lbs.; lead, 27·621 lbs.

"A. Z." (Wolverhampton).—Cobalt ore was first used to tinge glass blue by Christopher Schurer, a glass maker at Platten, about the year 1540.

"F. M." (Ecclesfield).—The works established by Mr. James Mitchell, at Chesterfield-are, we believe, principally for the extraction of lead from slag. We have no doubt, from his well-known urbanity, that if you address him you will obtain an answer.

"An Old Subscriber" (Brighton).—Hermes Trismegetus, who is said to have lived in the year of the world 2916, has generally been regarded as the oldest of the alchemists. From him it has been styled the Hermetic art. About the 7th century Geber, the Arabian, lived: his works were published at Strasburg, in the year 1520. Dr. Johnson supposes that the word "gibberish," anciently written "geberish," was originally applied to the language of Geber and his tribe. Even at the present day, it would appear we have believers in the transmutation of metals. In the year 1782, Dr. Price, of Guildford, by means of a white and red powder, professed to convert silver into gold; and is said to have convinced many disbelievers of the possibility of such a change. His experiments were to have been repeated before a competent tribunal; but, previously, he put a period to his existence by swallowing laurel water.

"A Mine Adventurer" (Fore-street).—We regret to be obliged to decline the insertion of your communication. The style and matter renders it inadmissible in our columns. If persons are trespassing on the property, the remedy would be by an action at law; but we very much question whether you would be justified in practising the summary mode of ejectment and subsequent punishment you propose.

"G. L. B." (Wolverhampton).—The great market for Norwegian iron is New York. It fetches there from 90 to 100 dollars per ton. It is manufactured with charcoal. The principal works are at Foesnis, near Skien, the property of Stadt-holder Lovenskiold; Naes, near Arendal, belonging to Mr. Aall; and the Fritzoe Iron-Works, in the vicinity of Laurvig, purchased, a few years since, by Etats-raad Treschow. At Christiansand and Christianssand there are iron foundries, which are supplied with pig iron from Glasgow. The castings manufactured by this are much cheaper than those from the native iron.

"A Chemist" (Bristol).—The rare substance called "mountain meal," was found by Fabbroni at Santa Fiora, between Tuscany and the Papal dominions. It is manufactured into bricks, so light as to swim on water. Its principal composition is silica and water, with a little alumina and oxide of iron.

*** We have been compelled to omit some remarks on Mr. Hudson and the York, Newcastle, and Berwick Railway Company; on the Administration of the Colonial Empire of Great Britain; on the Mines of Ireland; a Mineralogical Description of the Island of Rona; Mr. Dunn on the Winning and Working of Collieries, &c., &c.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, APRIL 14, 1849.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

The state of business in general, and of mining business in particular, has exhibited no material alteration since we last addressed our readers. What may be wanting in external and striking improvements, we have great pleasure in believing is fully made up and compensated in the sound, progressive, and regulated character which business is everywhere assuming. For a considerable time past the maximum importation of foreign and of colonial ores has been arrived at, and their whole effect in lowering prices in the European markets has been ascertained. We have now little to fear from a redundant supply of the staple metallic ores from any quarter whatever. We want, perhaps, above all things, to have this stability—this permanent tone in the mining markets of the world confirmed and perpetuated, in order that a more settled data for calculation—a more fixed basis on which to rest the remunerative estimates of mining capital may be arrived at and set up. All commerce is linked together; the trade of the world is as a golden chain binding nation to nation, and individual to individual. No public interest is without its particular relation to other interests. The state of the revenue, as exhibited by the recent returns, is but the reflex of the state of trade during the period over which the returns extend; nothing is more distinctly symptomatic of the progress of trade than the progress of the revenue. A falling or a flourishing state of commerce, as a whole, is the direct and universal antecedent of the falling or flourishing state of the public income. We have kept our own, and something more. The vessel of the State has stood well to windward, and, continuing in that course, all the great interests of the nation, and that of mining prominently among them, will be carried forward to a condition of satisfactory and settled prosperity.

We confess we felt much satisfaction from reading, in one of the Cornwall papers, a few days since, what we may consider an account of the completion of the Falmouth Water-Works. From the peculiar circumstances of the times, and from the peculiar prejudices of individuals, we have reason to believe that these works have been conducted, and brought to their present favourable termination, under difficulties of a really extraordinary kind; and, as we consider them as much more calculated to confer benefits on those for whose use they are designed, than on those who have promoted them, we think the individuals who have, with so much persevering labour, and so much practical ability, obtained the Act of Parliament, formed the company, and superintended the construction of the works, are entitled to the thanks of the town of Falmouth, and of all interested in its comfort and respectability. We have some knowledge of the real wants of the town; and we do not hesitate to place this, of a constant and full supply of fresh water, among the most prominent and important. As things are now happily brought to a head, we trust that, by the constant residence of an efficient superintendent, the works will be made as productive to the company, and as acceptable and beneficial to the resident population of the town, and also as accessible to the shipping frequenting, as address and vigilance can possibly make them.

When a few months since the news reached us of the discoveries of gold in California, the influx of which was to disturb the whole currency of the world, to break up established relations, and form an entirely new social system, we were not surprised at the excitement it produced among our trans-Atlantic "go-a-head" brethren, and some few mercurial spirits in our own sober island. From the general speculative character and exaggerated imagination of the Americans, we anticipated what has taken place—a general rush to the "far west" in search of the glittering treasure. In a population so mixed as that of the United States, and composed of such heterogeneous and ubiquitous elements, where fortunes (we will not, in every case, say by what means) are quickly made, and as swiftly squandered by "smart men," a movement in this direction was not to be wondered at. Fortunately, before many of our countrymen had followed the stream which was to carry in its force all before it, counter statements arrived, which, while they partially confirmed the accounts received, gave such deplorable pictures of the miseries and privations undergone by the gold hunters on the banks of the Sacramento, that the more sober-minded halted in their onward career, and prudently abandoned the desire and risk of becoming suddenly rich in a region of ague, bowie-knives, and revolvers, and returned to the peaceful pursuits which they were about foolishly to leave for that visionary and delusive chimera—untold gold—which, from the beginning of time, has, in a greater or lesser degree, excited the most extravagant hopes, and pampered the worst passions of mankind, wisely preferring to endure the ills they had, instead of flying to others they knew not of. And while we are on this subject, we cannot refrain from alluding to an article (Four Months among the Goldfinders in California), which appears in another part of our columns. The sufferings and dangers to be encountered previous to arrival at the gold region, the desperate lawlessness, violence, and general insecurity of life and property there—not only from the wild Indian, but his more *civilized Christian* brother—and the results achieved after four months anxious toil, spent in constant dread of assassination, and every fear and discomfort that could possibly be entailed on man among the refuse and scum of a society daily becoming more brutalised by the uncontrolled exercise of all the bad passions of human nature, are so graphically described and amply detailed by an eye-witness and victim to the exciting delusion, and conveys a moral so trite and wholesome, that we earnestly recommend it to the notice of our readers, assuring them that the time occupied in its perusal will not be misspent.

We have always affirmed that, by the natural interchanges of commerce, a fair proportion of the wealth of California would reach our shores, without the direful necessity of sacrificing the lives of hundreds of our fellow-countrymen in the dubious pursuit of gathering it in the placer. The steady and untiring course and indomitable perseverance of the Anglo-Saxon race has rendered them pre-eminent among the nations of the world in the race of wealth and civilisation, and we have no doubt, while they confine their energy and application to these legitimate and praiseworthy objects, they will maintain the proud position they have so justly and deservedly attained. Imagining that we unmistakeably knew the character of our countrymen, we were not a little surprised, when the Californian excitement had subsided, to perceive that the gold fever had began to exhibit itself here, though under a different phase, and that a species of antiquated charlatanism, which has long been exploded, and when thought of, merely considered one of the greatest follies of past centuries, has been, in this calculating and material age, resuscitated from the obscurity in which it so long slumbered, dragged from the oblivion in which it has been buried, to stand the searching scrutinising glance of light—we allude to the so-called science of alchemy.

We trust we shall not be considered offensive to those of our correspondents who indulge in these golden reveries, if by any means we should disturb the delicious day-dreams in which they are indulging, though we should almost fancy that the sober reasoning of Dr. Murray, and other correspondents, which has appeared in our columns, must have given them anxious waking thoughts. The experience of past ages, and the immense and rapid progress which chemistry has made in the present century, visibly and clearly show the absurdity of the theory of the transmutation of metals, which, if practically carried out, would elevate man from the condition of a subservient being to that of a creator. That compound substances may be formed by chemical combinations, and again reduced to their primary condition, is a fact known to every schoolboy; but the possibility of forming substances where they do not exist, or changing the nature and character of objects, appears too like a pantomime trick to be credited. Several of the old alchemists were men of great philosophical research, and of the first order of talent in the dark ages in which they lived, and to their experiments we owe many useful discoveries in chemistry; at the same time we award the meed of praise which is due to them, we must be careful not to let our own imagination be deluded by the visions in which they indulged, or the mystic jargon in which they enveloped their cabala. Disbelievers as we are in the alchemical art, we have thought it would not be inapposite, at this present time, that our correspondents, who have faith in the grand arcanum, should have the benefit of the labours of the older alchemists.

In a pamphlet, entitled *The True Art of Alchemy*, published in 1524, is the following universal recipe—"The first work is to unite the four elements by water, taken out of the beams of the sun and moon; then separate the arsenical sulphur and earthy fœces; with this, and the common moisture of metals, you come to the philosopher's water, or sophical fountain, wherein is contained the first principles of Sol, Lune, and Mercury—that is, sulphur, salt, and mercury; then come to amalgamation, which is the same as calcination or purification; the virgin principles are then separated, the thin from the thick, and the *airy* is converted to a watery nature, and the watery to an earthy nature; and it is now endowed by such virtues that it will be made into a fire-abiding tincture, which, as it is excited and fermented, will transmute the imperfect metals." We must honestly confess, we are so ignorant that we cannot comprehend this process, more especially the portion which relates to the extraction of water from the beams of the sun and moon; probably, it is meant to collect the dew, as, in another part of the volume, it is stated that fresh May dew contains the spirit of gold. In the same work, it is stated that sophic mercury can be transmuted either to gold or silver; this process is excessively easy, and within the reach of every one, it is as follows!—"Take common mercury, distil it four times from salt of tartar and quicklime, then this mercury becomes cold to the touch and is sophic; take then four parts of this mercury, and dissolve one part of gold or silver leaf in it; then stir it up and it will become heated and the mercury transmuted to gold or silver, as the case may be." Van Helmont, who was a believer in the philosopher's stone, states that, "with red stone, he saw nine ounces of quicksilver transmuted by the addition of half a grain of gold." In these two instances, it would appear that the theory of germination was attempted to be proved, as in both instances the precious metal was added to the baser. Sir Kenelm Digby affirmed he made one of his transmutations according to the following recipe—"Take good mineral antimony, mortifie it with radicated vinegar, then separate its quintessence with pure spirits of wine; with this quintessence dissolve mercury duplication of antimony, which unite with a subtile calx of stone, and bring them to an incombustible oil, which will transmute mercury into gold." In every case it appears that mercury was the favourite metal employed, and it is probable, from imperfectly understanding its powers of amalgamation, that those who were sincere believers in the art were inclined to imagine that it was easier to transmute. The extracts that we have made are those which, to our limited capacity, appeared to be most easily to be understood, and we will leave our readers to judge from these specimens of the matter contained in the work.

The projects of the older alchemists, however, sink into comparative nothingness, when placed in juxta-position with the gigantic scheme propounded by the Liverpool ironfounder, of converting any quantity of iron into gold (see *Mining Journal*, March 17). We will not for a moment enter into any discussion as to whether such a proceeding would be beneficial to the community at large, but we would advise those who are endeavouring to manufacture gold on a small scale to delay their operations some little time, at least, until the ironfounder has thrown some tons into the market. We question much when this takes place, combined with the arrival of the Californian gold (according to the first reports), and the shiploads from the island, where lumps from an ounce to a pound weight can be picked up in an hour to ballast a ship (as advertised by "G. D." in the *Times*), whether the small amount of gold produced by any of the minor adventurers will repay them for the trouble and anxiety they have taken.

In sober seriousness we should be sorry to discourage any experimentalists in a philosphical pursuit likely to benefit science or the operator; but the most cautious persons may be deceived, and individuals may nurse improbable theories against reason, until they firmly believe they can practically be carried into effect, regarding more thinking and less prejudiced parties, who coolly judge them, as envious or ignorant men. History has hitherto shown that gold has never been obtained but at a greater sacrifice than its value; and from its pages we have deduced this indubitable moral—that none of the gold seekers, transmuters, and creators, after wasting their life in its worthless pursuit, have reaped anything but disappointment, beggary, and disgrace; while posterity—that severe chronicler—has only divided the old alchemists into two classes—fools and knaves.

DESTRUCTION OF WORKS AT THE MENDIP HILLS MINE.

Barwell and Others v. the Inhabitants of the Hundred of Winterstoke.—Some of our readers may remember that, in June last, a number of persons collected in the night, and broke down the leats and launders belonging to the above company, and which conveyed the water necessary for washing the lead ore to the dressing floors, and to which they were legally entitled under agreement. The directors, at the time, used every means to discover the perpetrators, and offered a reward of 20*l*., but without effect. The present action was against the hundred in which the offence was committed, and was tried on Saturday last, at Taunton, before Mr. Justice Williams and a special jury. The damages were laid at 500*l*. The defence was, that the erection was not pulled down; that it was not an erection used for carrying on the plaintiffs' business, and that the damage did not exceed 30*l*.—Mr. Cockburn, for the plaintiffs, opened the case. He said the action was brought under the Act 7th and 8th Geo. IV. cap. 31, which enacted, "that any persons riotously and tumultuously assembling together, and pulling down or demolishing any steam or other engine for sinking, draining or working any mine, or any buildings or erections used in conducting the business of such mine, shall be deemed guilty of felony;" and the 31st chapter rendered the hundred liable for the damage. He should show that 40 or 50 persons riotously and tumultuously assembled together at night, with guns and other arms, and demolished a considerable portion of the water troughs belonging to the company, which, if he proved, the defendants would have to make good, in accordance with this salutary law, which made all the inhabitants interested in preserving the peace.

The principal witness, Capt F. C. Harpur, the company's agent, said—"I have been engaged as a miner ever since I was nine years of age. The company have a lead mine called the Mendip Hills Mine. They have worked it rather more than three years. They have four shafts there. Troughs had been erected to convey water to the mine, for the purpose of dressing the ores. The water is taken up about a mile and a half from the mine, at a place called Coles's Farm, brought through a wood called Long Wood, and continued to Velvet Valley, where it ends. It is nearly a mile and a half long. The lead in the mine is mixed chiefly with lime rock. It has, when 'brought to grass,' to be dressed with this water. As far as my experience as a miner has gone, it is absolutely necessary to wash the ore before sending it away. If sent unwashed and undressed, the expense of carriage would render it worthless. In some places the troughs are supported at a considerable height above the ground by wooden legs. We had been working at the mine, and also at what is called the 'slag.' The mine was an old mine, and there was a large quantity of slag lying near the mine. The slag contained a good deal of lead, and was treated as the lead ore. On the night of the 9th of June the troughs were injured, and the repair of them cost between 60*l*. and 70*l*. In consequence of something that occurred, I set Joseph Cole to watch the troughs on the night of the 23rd of June. About 1 o'clock I was awoke by Cole. I heard the report of firearms. I was afraid, and, therefore, did not go to the spot at that moment; but the next morning I went to the troughs, and found that they had been broken down, even to greater extent than before. They were broken to pieces in every direction for more than a mile, and the cost of reparation is 140*l*. We have made every endeavour to discover the perpetrators of the mischief, but have not succeeded."—From the cross examination of this witness, and the evidence of others it appeared the origin of riot was, that a report was about that the company had poisoned the water which the inhabitants of Cheddar were in the habit of using, and the damage was considered to have been done by Cheddar people; but nothing to that effect was really proved.—Mr. Crowder, for the defence, called on the jury to see that the case was as clearly made out as they required it to be if they were trying the actual offenders for the felony; he contended that the erection was not necessary to the plaintiffs' business, and that it had not been demolished feloniously, but in the exercise of a right on the part of the much aggrieved people of Cheddar. He said, if he had been thus aggrieved, he would have taken a hatchet and cut down the troughs in midday, because he knew he was legally justified.—The learned judge left two issues to the jury; was the erection necessary?—was it destroyed feloniously? Verdict for the plaintiff, on both issues, damages 140*l*., with leave to defendant to move on the point of law as to the erection.

WONDERS IN LOCOMOTION—NEW MOTIVE-POWER.

We have been favoured with the following description of a new discovery, for the propulsion of carriages, on rails and on common roads, without engines, steam, air, magnetism, or animal power; and the propelling of ships, without either of the above means, or sails, paddles, or any propellers whatever:—

"SIR,—I beg to inform you, and your readers, that the patent has for its object a new motive-power, which, for advantages, surpasses by far steam, or any other power actually known; for, if we employ one cubic inch of the patented ingredient, we obtain from it no less a pressure than that of *forty-six tons* upon the square inch of surface. The gases evolved consist chiefly of carbonic oxide and carbonic acid gas, both gases permanently elastic, so that passing through cold air, or water, they do not collapse, but will follow up the piston to the utmost limit of its work. In using this ingredient we require neither fire or water; it creates neither smoke, nor any offensive effluvia, and, with the exception of a slight moisture, or pure vapour, it leaves no residuum behind. Neither is there any compound in the gases which could corrode metals, as was presumed by Tschernacher, Porrett, Fordos, and Gelis, who seem to have copied from each other the supposition, "*that there might be compounds of cyanogen* in the gases of this ingredient, JUDGING FROM THE BLUE COLOUR OF THE FLAME WHEN SUCH GASES WERE IGNITED," never telling us that the greatest portion was *carbonic oxide*, which gas is well known to burn with a dark blue flame, very similar to that of ignited *cyanogen*; while *cyanogen* is soon known by its offensive and very peculiar smell, which is not to be traced in the gases of the ingredient in question, which consists, in fact, of all kinds of vegetable fibres, or lignine, such as cotton, flax, hemp, tow, saw dust, straw, hay, rags, paper, &c., rendered explosive by their being dipped for 11 to 15 minutes, in nitric acid, strengthened by an admixture of an equal quantity of sulphuric acid, then well washed in pure water, and dried for about two hours. By this simple process all the vegetable fibres in the creation become highly explosive. This fact was first noticed by Professor Otto, of Brunswick, about 14 years ago; and again by Pelonze, of Paris, in 1838; and, finally, fully published in the English press about the early part of the year 1846, under the name of *gun-cotton*, as it was called by Professor Schönbein, or, as M. Pelonze called it, *xyloidine*.

Now, considering the very intense power of xyloidine, it is found, on experiment, to be the most tractable ingredient we know—for example, compression, or matting, suffices to limit, retard, or entirely prevent its explosion—not like gunpowder, by one fired grain of which a whole mass of the same powder is instantaneously ignited and exploded: no, by slighter or greater degree of compression, I have caused a long sliver of xyloidine to explode in my hand in six and seven degrees of velocity and force; or, by compressing a certain part of the sliver between my fingers, I have limited its explosion to the mere loose and carded parts of it. On one occasion, I put successively small pellets of xyloidine on a table, and compressed each of those pellets in the middle with the back of a knife or finger. I then took a match, and exploded the projecting ends of such pellets; this done, I lifted up the knife, or finger, and found the middle part of the pellets, as far as they had undergone the pressure, *unexploded*, and as sound as ever, though just as capable of exploding in a free and unconfined state as the other parts had been. By dint of these properties, therefore, xyloidine becomes so tractable, that its great energies may be completely managed, and its explosive powers may be either limited at discretion, or directed to that spot alone where its motive efficacy is required. These properties indicate to us also an easy mode of preventing accidents; but as the conversion of vegetable fibres into xyloidine is so very simple, and takes up so little time, only *small quantities*, as wanted, need be constantly making; and if those small quantities of xyloidine, together with those which are actually supplying the working machinery, be inclosed in tight vessels, and kept out of the reach of fire, I cannot see HOW any accidental explosions could occur; for we never hear, for example, of any explosions of gunpowder taking place in soldier's cartridge boxes, or in the chests of the artillery, or in the store cabins of the *men-of-war* and other vessels, which are constantly carrying and using large quantities of that explosive powder, which is more easily scattered in the way of fire than xyloidine. Very different, however, are the facts connected with steam-boilers, and the reasons are obvious; for, where there is an immense volume of steam kept up to the highest possible pressure, that steam is constantly seeking for *vent*, and in that effort it has only too often found its exit by the bursting of the boiler which had imprisoned its gigantic force; and thus it is that the most lamentable destruction of human life has occurred. Now, as in the machinery proposed to be worked by xyloidine, there is NO BOILER—there is NOTHING to burst; and provided the cylinders of the engine itself be moderately strong, which is generally the case, it is evident that there can arise no danger whatever from xyloidine being employed as motive-power.

The plans which may be adopted for the working of xyloidine as motive power are endless in their diversity. One plan, that of inserting a continuous sliver of xyloidine into the chamber of a common steam-engine, and exploding it by means of electricity under the piston alternately, is now worked by a Mr. Isaac Mickle, of Camden, New Jersey, in America.* For an engine of two-horse power, a thread not larger in size than ladies' sewing cotton is quite sufficient. The working machinery, therefore, need not be larger than a man's hat, and hence the enormous economy of the material, and consequent cheapness of the motive power obtained from it; while during a suspension of work there is no consumption whatever—not like in the case of animal labour, or in the keeping up of steam. Add to this vast economy the great saving of space and metal, and the reduction of weight in locomotive carriages for common roads, which, on account of the great weight of the steam apparatus (no less than ½ ton to *one ton* for every horse power) have been found hitherto impracticable; while the small and compact xyloidine engines are easily attachable to carriages, street cabs, tradesmen's carts, farmers' waggons, dandys' velocipedes, or the old ladies' Bath chairs. Add to this the incalculable value of this power in the trans-Atlantic navigation, or, indeed, in vessels generally propelled by machinery, where room is a great object, and where fire and smoke are objectionable, as also in manufactories similarly circumstanced—add, I say, all these items, and the patent herein described proves at once to be the most valuable of our age, and, had such a discovery been made about 12 or 14 years ago, it might have proved a real blessing to this country; for, with this beautiful motive-power in our possession, railroads would have been useless, for locomotives on the common roads would have been universally used, and that ruinous outlay on the building of railroads, which has so completely drained England of its capital, would have been prevented, and the money would have been employed in reproductive commerce with foreign countries—so that the panic which is now paralising every branch of trade, and which is driving Great Britain to the very verge of bankruptcy and starvation, would have been unknown, and in its stead an universal and uninterrupted prosperity would have been the result.

Since writing the above, I have been engaged in constructing an engine and locomotive, to be worked on the common roads by xyloidine, on the following plan:—Small quantities of xyloidine are exploded successively into a copper recipient of a spheroidal form of 13 in. diameter, and ½ in. strong in metal. Each separate explosion is adequate to produce, by means of double cylinders, a complete revolution of the crank. The object of the copper recipient is merely to allow the intense gases thrown into it room enough to expand, and thus to change their percussive intensity into a more gentle dynamic power, without in any way losing any of the quantity of that power. I can, therefore, let out from that copper recipient as much of the gases, through a stop-cock, as would produce a pressure of from 30 to 60, or 120 lbs. upon the square inch of the piston; moreover, by the very heat accumulated in the metal of the recipient, the gases are kept up to their original strength, so that, the longer the engine continues to work, the greater the comparative economy of xyloidine, on account of the heat of the recipient and of the machinery, which serve to keep up great expansion, and consequently great power in the gases.

My experiments with a steam-engine of about 2½-horse power, on the above principle, answered admirably; but while these experiments were going on I made a further discovery, and this last one is verging almost on a miracle. The most prominent features of my last discovery are—that the propulsion of carriages on railroads, and on common roads, will be now effected without engines, steam, fire, water, magnetism, air, or animal power, and propelling of ships without either of the above means, sails, or paddles, or any propellers whatever.—I beg to remain, Sir, &c.,

London, April 13. ADOLPH COUNT DE WERDINSKY.

* See the *Watchmaker, Artist and Man-Master Examiner*, March 6, 1847.

PREVENTION OF EXPLOSIONS IN COAL MINES.

We have been requested to add the following letter, written by our informant to Lord John Russell, on the 12th of March last:—"MY LORD: I beg to submit to the Government of England an efficacious and inexpensive plan for preventing explosions in coal mines, in the confidence that, if my suggestion proved of benefit to the nation, I will not be forgotten. The plan is simply this:—As fire is the agent which causes the hydrogen gas emanating from coal in the mines to explode, and thus to be annihilated, let fires be constantly kept up in the different shafts of the mines, and the flowing current of hydrogen gas will be thus perpetually consumed, while the draught created by the high chimnies, or flues, necessarily co-existing with the fire-places, will of itself be powerful enough to draw the gases to the grates to be exploded, and consequently annihilated there. Moreover those fires need not burn there without being made useful, either in burning coal into coke, or for some other manufacturing process.—I beg to remain, my Lord, your obedient and humble servant, ADOLPH COUNT DE WERDINSKY."

TERRESTRIAL MAGNETISM;

AND ITS EFFECTS ON THE SEMI-FLUID SURFACE OF THE EARTH.

[Continued from last week's Mining Journal.]

The sedimentary rocks, according to Mr. Hopkins's system, have been deposited in different zones during the progressive advancement of the surface towards the north; and he distinguishes the sedimentary rocks by their respective zones of deposition in the following manner:—

Zones, where deposited.	The same, consolidated and known by English geologists as
No. 5. North temperate	Alluvial deposits of Europe.
4. North tropic	Cretaceous and tertiary of Europe.
3. South tropic	Oolitic and triassic strata.
2. South temperate	The carboniferous, great coal formation.
1. South frigid	Cambrian and silurian.

In Australia, New Zealand, and Patagonia, the fossil remains of extinct animals are associated with those of existing genera, and the land is still inhabited by representative forms of beings which flourished in early epochs. The apparent anomalies in the terrestrial faunas and floras entombed in the secondary rocks of the northern hemisphere have still their parallel in the south, and show that the organic laws have continued in unabated energy. New Zealand, with its peculiar flora, characterised by the predominance of ferns, club-mosses, &c., presents a general correspondence with the lands which supplied the carboniferous deposits. Australia and Van Diemen's Land possess flora equally peculiar to the southern hemisphere, unlike the living organic world of the north. These countries still present abundant variety of the *cycadeaceæ*, *araucariæ*, &c., and also the *terebratulæ* and *trigoniæ*, and the *cestracient* fishes which swarmed in the seas during the depositions of the oolites now found in the north. The annexed table will show more clearly the organic relations between the countries now depositing, and the consolidated deposits of their earlier production:—

Deposits now forming.	Consolidated rocks, known by
New Zealand.	
Predominance of ferns, lycopodiaceæ, and other cryptogamia; mammalia absent.	The carboniferous and triassic, as indicated by the fossil remains.
Australia.	
Cycadeaceous plants; marsupial mammalia.	The oolitic strata.
The Galapagus Islands (Equator).	
Predominence of reptiles; herbivorous, terrestrial, and marine saurians and cheloniums.	The rocks containing the saurian fossils.

Throughout all geological time, the productions and changes of the earth's surface have been governed by the same physical and organic laws;—throughout the innumerable ages which have passed away during the slow northward action which have formed the sedementary rocks of Europe, there has been, at no period, a greater anomaly in the assemblages of certain types of the animal and vegetable kingdoms than exists at the present time. "The researches of M. Brongniart in fossil plants (continues Mr. Hopkins) led him to conclude that, during the early period, when the plants entombed in the coal-measures of the northern hemisphere flourished, the atmosphere was more charged with carbonic acid than at present, aiding, it is said, the development of the gigantic species seen in the coal, &c."—"It is difficult to conceive how the idea of plants obtaining their carbon from *the atmosphere* originated, when it is a well-known fact, proved by innumerable experiments on gigantic vegetation, that it is obtained from the soil. No such atmosphere exists in the southern hemisphere, nor within the tropics, yet those magnificent trees above alluded to grow there. Such carbonic atmosphere would destroy vegetation; the plants are fed by means of the *roots*, and not by the *leaves*. The function of the leaves is to *evolve* the gases—that is, they form the negative plates to the currents of the sap in the living plants, and the carbonic acid evolved into the atmosphere by its specific weight and rains, falls back again to the soil, to be taken up by the absorbing powers of the roots."

The following extraordinary facts, recorded in the minutes of the Lord's Committee on Colonisation, strikingly show the difference which exists between the effects of the two hemispheres on vegetation:—Plants which in Europe are annuals, become perennials. This has been observed to be the case even with barley, beans, &c. The wheat grows exceedingly high, the stalk being so strong that it has the power of resisting wind, and is never laid. The myrtle and the fuschia are large timber trees, and so is the fern. Mr. Hopkins again observes—"When we consider the myriads of reptiles which inhabit the tropical zones, it is not surprising that their relics should be found in sediments within their own element; nor is it to be wondered at that no traces of man and his works have been found in such deposits. . . . . This zone in America is even at present but thinly inhabited, and if perchance a man be carried into the rivers, he would soon be devoured amongst such a profusion of carnivorous reptiles."—"In roving through the forests in the low lands between the Rivers Orinoco and the Amazon, the earth is so overloaded with thick and gigantic vegetation as to render it impenetrable for beasts. A solemn silence prevails throughout, and the stillness only broken by the aquatic birds and monkeys bordering the rivers. In these regions we consider man as a being not congenial to that order of Nature; the scene presented is like the restored countries of the Iguanodon. The *crocodiles*, *sharks*, *boas*, and *bavial* are masters of the rivers; the *jaguar*, *pecari tapir*, rove along the banks, surrounded by the most luxuriant vegetation, and continue to live there undisturbed by man, as in an ancient heritage. Were this region depressed 320 ft., many square thousands of miles would be covered by the Atlantic Ocean, and the eastern declivity of the Andes would become again a shore of the ocean, and, on being emerged, would present the remains of the organic scene above described, without probably a trace of man or his works, or even birds or monkeys. The works of art, in the present age in that region would, in such deposits, be undistinguishable from the wrecks of the forest."

[To be continued in next week's Mining Journal.]

GOVERNMENT CONTRACT FOR COPPER.—The Board of Admiralty have given notice that on the 24th inst. they will be ready to treat for supplying her Majesty's dockyard, at Chatham, with 200 tons of English tough cake copper, one-half to be delivered in three weeks, and the remainder in six weeks from the day of treaty. Every tender must be addressed to the Secretary of the Admiralty, Somerset-house, accompanied by a letter, signed by two responsible persons, engaging to become bound with the persons tendering, in the sum of 4000*l.*, for the due performance of the contract.

CONTRACT FOR COPPER FOR THE FRENCH NAVY.—A large contract for sheet copper is shortly expected to be announced by the French Minister of Marine, for the purpose of sheathing a great portion of the national navy (sailing and steam-vessels), which is to undergo a thorough inspection and repair, as of late, in consequence of the unsettled state of the country, it has been rather neglected.

THE COAL TRADE.—The Commissioners of the Customs' Department have issued instructions to the collectors and comptrollers, and other principal officers of the department at the several ports and places throughout the United Kingdom, to prepare and transmit to the Inspector-General of Imports and Exports, with the least possible delay, the following account, so far as the same relates to their respective ports—viz., an account of the number of tons of coals, culm, and cinders, respectively shipped at the several ports of England, Scotland, and Ireland, to other ports in the United Kingdom, in the year 1848, in continuation of a similar account rendered for the previous year.

The mania for gold hunting has extended to the usually unspeculating Isle of Malta. An English brig, the *Lord Bruce*, Captain G. Poole, has advertised for passengers for San Francisco, in Upper California. Some 40 persons are about to start, with a full cargo of wines, oils, &c. The vessel is to leave on the 25th inst.

THE IRON MANUFACTURE—BRITISH AND AMERICAN.

[FROM A CORRESPONDENT.]

In an article on the prospects of the iron trade in Scotland, as being the country in which the greatest competition is to be expected with the manufacture in the United States, published in the *Philadelphia Commercial List*, it is stated that the quantity of iron manufactured in Scotland, amounted to no less than 600,000 tons in 1848, showing an increase of 60,000 over the manufacture of 1847; and also the remarkable circumstance that the manufacture, which was only in its infancy within the last 10 years, in Scotland, has risen from 44,000 tons in 1838, to 600,000 tons in the late year of 1848. "One quarter of all the iron made in the world is now seen to be manufactured in Scotland, in the short period which has passed since the discovery of the black-band iron ore, with the simultaneous invention and the application of the hot blast. It then refers to the exports of pig iron to the United States having been, in 1848, 90,235 tons, being an increase of 45,242 tons over 1847, and 76,337 over 1846. During the same year it was estimated that 100,000 tons of bar iron were received in America from Wales, railway iron alone having been 67,000 tons. Altogether, about 25 per cent. of all the iron consumed in the United States, in 1848, was furnished by the manufacturers of the British Islands. The writer states that no powers of competition existed in Pennsylvania, the chief seat of the iron trade in America, against the prices of iron arriving there from Scotland and Wales; and in pursuing the inquiry as to how far this importation of British iron may increase or decrease in the course of the present year, he says, "many persons have been expressing the opinion that the arrivals of Scotch iron must soon cease, by reason of the known and undoubted loss which has resulted from its manufacture at the prices of the year 1848. The average price in the Clyde has been 2*l.* 2s. 4d. per ton, and this price is 7s. 10d. sterling below the known cost of production of iron, at even the best situated works in Scotland, where 2*l.* 10s. is the lowest price at which mixed numbers can be sold in the Clyde. But, notwithstanding this loss of capital on the operations of the year in Scotland, there are reasons for supposing that the manufacture of iron will not be discontinued from that cause—but, on the other hand, that the quantity to arrive in the American markets may be even greater in the present than in the preceding year. For the iron manufactured on the Clyde is almost all exported to foreign countries, only the comparatively small quantity of 30,000 tons having been manufactured into bars in Scotland in any one year. The larger portion of this iron is consumed in the manufacturing districts of England, or is sent to France, Germany, and other countries of Europe, or to the East Indies and the South American States. The increase of demand in these markets is, therefore, requisite to the cessation of the *forced* exportations to the United States. One of the principal causes of the depressed prices of iron in Great Britain is in the excessive increase of the manufacture during the last 10 years. The premature extension of the English railway system, in the years 1835, 1836, and 1837, led to the erection of great numbers of furnaces and rolling mills, on the calculation of inexhaustible supplies of iron being required for these undertakings; but this has proved to be a widely-overestimated calculation, and the leading railway lines of Great Britain being now generally completed, and the revolutionary state of Europe being unfavourable to these peaceful undertakings, the quantity of iron for railways has most extensively decreased, and the present depression in the manufacture is chiefly owing to that circumstance, in combination with the general shock to all credit and manufacturing operations, as following the European political troubles of the late year of 1848. For not only has the consumption of iron decreased in Great Britain in the late year, but the exports from the Clyde alone are given in these tables as decreased by the large quantity of 64,000 tons to Germany and France alone. In the midst of this falling off in the European demand for iron, it is to be apprehended that the manufacturers will be compelled to continue to *force* the markets of the United States." He then proceeds to an inquiry into the circumstances under which the ironmasters of Scotland can continue their operations under diminished trade and great money losses in the year, and considers "that the leading difference between the manufacture of iron in Great Britain and in the United States, consists in the royalties, or the annual rent of mineral lands, which is a charge entering into the cost of production very much more heavily in Great Britain than in this comparatively new and more extensive region of iron ore, and of limestone, and coals. The royalties in South Wales enter at the rate of 8s. sterling into the cost of a ton of pig iron; in Staffordshire at the rate of 8s. 9d. per ton; and in Scotland, some of the leases of the land containing the black-band iron ore have been taken at the rate of 14 guineas per acre, which is considerably higher than the royalties either in Staffordshire or Wales. It therefore follows that an iron manufacturer in Scotland cannot suspend his operations, without the loss of the entire annual rental of his mineral lands, and which amounts to about 20 per cent. upon the whole value of the pig iron, at the present rate of 2*l.* 2s. 4d. per ton. Then the delapidation of buildings and machinery, with the loss of interest upon the capital invested in the business, all are additional inducements to the continuation of furnaces in blast, and it is always considered better to be prepared for any immediate benefit to a rise from a change of times. But whilst the British iron manufacturer is under the disadvantage of high royalties for his minerals, he possesses the great counteracting advantage of labour at prices very far below the wages which prevail in the iron manufactures of the United States. Reductions of wages are made until workmen can only exist with strength sufficient to perform the labours of the day—on the unfortunate labourer the burthen never failing to fall in all feudal countries of the world; and, as the wages of labour compose almost all the rest of the iron manufacture, after the royalties are paid, it is in the low rate of wages that the advantage is so much greater to the manufacturer of iron in Great Britain than to his competitor here in the United States." The writer concludes with some extracts from an article on the iron trade and railways, which appeared in this Journal on the 3d of February last.

A lawsuit of considerable importance to the mining community has, unfortunately, missed our attention, and for which we have to apologise to our readers. We allude to the trial between the Duke of Beaufort and Sir John Morris, which took place a few weeks since at Swansea. The particulars of which, however, will be detailed in our next.

LEYS IRON AND TIN-PLATE WORKS, NEAR STOURBRIDGE, AND THE OXFORD, WORCESTER, AND WOLVERHAMPTON RAILWAY.—A Court was held under the Land Clause Consolidation Act of 1845, on Monday last, at the Swan Inn, Wolverhampton, to assess the sum to be paid to Mr. Robins, mortgagee of these works, for 1 rood 24½ perches of land, required for the Kingswinford branch of the railway, and to fix a sum as compensation for the severance of this land from the main portion of the works. On behalf of the mortgagee, it was stated that the value of the works and machinery was about 10,000*l.*, and for that sum a purchase could have been effected; that an outlay of from 2000*l.* to 3000*l.* would materially increase the value of the works, while, by the severance proposed by the railway, a depreciation in the property to a like amount would take place. The ground was valued at from 15s. to 1*l.* per yard; and, that in consequence of the railway passing through the property, a purchaser had declined completing a sale. On behalf of the company, the ground was estimated at from 1s. 6d. to 3s. per yard; with a composition of 50 per cent. for compulsory sale. The inquiry lasted two days, the Hon. J. C. Talbot, Q.C., was counsel for the mortgagee, and Mr. Whateley for the railway company. The following gentlemen were examined for the mortgagee:—James Bovdell, late manager of the Oak Farm Works; Robert Smith, of the firm of Smith and Summerhall, formerly lessees of the Leys Works; William Haden, of Dudley; Joseph Hall, of Tipton, ironmasters; William Smith, Joseph Spencer, John Burr, engineers, George Taylor, surveyor; and Richard Banks, agent. On behalf of the railway company, George Downing, of Smethwick; Thomas Boulton, of Stourbrige, ironmasters; Richard Williams, superintendent of Mr. Foster's works, at Brockmore; Benjamin Williams, manager of the Whittington Works; John Dunning, agent of the Bradley Works; William Roe, of Wrexham, civil engineer; John Davies, land surveyor, and resident engineer of the company. The jury returned a verdict for 1902*l.*; giving 979*l.* as the value of the land, and 923*l.* for severance and all other consequential injury.

EAST INDIAN RAILWAY.—At a meeting of the proprietors of this company, held on Tuesday last, resolutions were unanimously passed, authorising the directors to conclude a contract with the Hon. East India Board, for the construction of a line, and a vote of thanks was passed to the chairman and directors, for their untiring perseverance, energy, disinterestedness, and patience. Mr. Aglionby, in returning thanks for himself and colleagues, spoke in flattering terms of the assistance rendered by Mr. Noad (the secretary), to whom, he said, much praise was due. The proprietors cordially responded to the sentiment.

ROYAL MAIL STEAM-PACKET COMPANY.—The annual general meeting of shareholders was held at the London Tavern, on Thursday last.—ANDREW COLVILLE, Esq., in the chair.—The report of the directors was considered to be highly satisfactory, and was received and passed unanimously. The dividend declared was the same as usual—2*l.* per share for the last six months of 1848, free from income-tax, and payable on the 17th inst., which is equal to 8 per cent. per annum on the present market price of the shares. The report states that a saving of 8184*l.* 6s. 5d. has been effected in the article of coal for 1848, and there is a diminution of 1329*l.* 0s. 4d. in the office and law expenses, salaries, and repairs, taken together. The charge for wages had been increased in 1848 by 4829*l.* 4s. 4d., for the harbour pay of the *Tay*, *Clyde*, and *Great Western*, when undergoing repair, and for an extra intercolonial steamer employed in 1848. The general service and stations were also increased by 2356*l.* 19s. 11d. for the hire of a steam-tender at Ship Island, in perfecting the arrangements for the New Orleans and Panama communications. The credit side of the account shows that the receipts have been augmented by 7450*l.* 4s. 7d., while the expenditure has only increased 189*l.* 12s. 8d. above that of the previous year. The balance remaining at the credit of the general reserve fund is 98,292*l.* 7s. 9d., and at the credit of the insurance account 70,667*l.* 10s. 6d.—168,959*l.* 18s. 3d.; and since the date of those accounts a further sum of 26,000*l.* has been invested in the purchase of 28,011*l.* 4s. Three per Cent. Consols. The loss of the *Forth* is to be paid out of the insurance fund created for such casualties; no further call is to be made for that purpose, or for carrying out the contract obtained for conveying the mails to Brazil and the Rio de la Plata.

Original Correspondence.

HIGH-PRESSURE STEAM AND STRUVE'S PATENT VENTILATOR.

Sir,—In his communication of March 22, Dr. Murray says—"An endeavour has been made to detract from the merits of Mr. Gurney, and transfer the priority to another." With all due deference to your distinguished correspondent, the "endeavour" to which he alludes will scarcely bear the construction he puts upon it. It was a mere statement of a fact, of the truth of which there is no doubt—viz.: that high-pressure steam was employed in the ventilation of the Hendreforgan Colliery from the year 1828 to 1833. If this fact detracts from Mr. Gurney's merits, he has either assumed that which does not belong to him, or is remiss in not proving his title to it. Mr. Stewart's claim to the invention was stated hypothetically, and not certainly; but the credit of having first employed steam for this purpose was attributed to him. The circumstances were fairly represented, and have not yet been disproved; and as a record of an historical event of some interest, confirmatory of the advantages of steam ventilation, the communications alluded to scarcely deserve to be designated as an "endeavour to *detract* from the merits of Mr. Gurney." Dr. Murray adds—"How far Mr. Struvé's patent ventilator is to operate as an *extinguisher* on the powerful ventilation produced by a jet of high-pressure steam, remains yet to be seen." In the communications alluded to there was no attempt to depreciate high-pressure steam as a means of ventilation, further than noticing the difficulties to be encountered in applying it in collieries where the upcast is also the drawing shaft. Its efficacy was admitted; and, as compared with the furnace, its superiority was stated on the authority of Messrs. Stewart and Forster. But it by no means follows that, because high-pressure steam has been successfully used in mine ventilation, no other means are to be tried, and, if equally efficient in practice, are not to be appreciated and recommended. Mr. Struvé's ventilator is certainly entitled to as favourable a consideration as any other mode—inasmuch as its excellence has been *practically* and unequivocally demonstrated, having increased the quantity of air, even under very unfavourable circumstances, upwards of 400 per cent., and is capable of far exceeding this quantity, were it required. Mr. Forster states the increase of the air passing through the Seaton Delaval Mine to be 70 per cent., and anticipates a considerable augmentation on the extension of this system. High-pressure steam, in this instance, has been tried under very favourable circumstances, as far as the airways and plan of the colliery are concerned; yet the results are not such as to entitle it to any pre-eminence over Mr. Struvé's machine. It is quite probable that neither of these methods have been sufficiently tried to develop all their capabilities; but enough has been done to prove the superiority of both to the furnace. Yet this is no reason why one should "operate as an extinguisher" to the other. There is an ample field for the employment of both means; and that which is most applicable and effective will be most generally adopted. In discussing their relative merits, regard must be had to the disadvantages, as well as to the benefits, resulting from their use; and that method which produces the greatest effect in practice, with the least inconvenience and fewest drawbacks, is certainly most deserving of a favourable consideration. Experiments on a small scale are not to be depended on as a certain indication of practical value; and we must, therefore, wait until one or both of these improved systems of mine ventilation have been more extensively adopted before we can conclusively determine which is the best. In the meantime, it is a cause of congratulation that so great an advance has been made in the means for improving the ventilation of mines; but, judging from experience, there is little ground for believing that these measures will be voluntarily adopted. The necessity for Government interference remains unaffected by these discoveries, and is as urgently required as ever; for, without it, there is every reason to doubt that the condition of the miner will be bettered by the increased security from accident and sudden death which may be obtained by these means.

Neath, April 7. J. Richardson, C.E.

MUESELER'S LAMP.—VENTILATION.

Sir,—It cannot fail to be a subject of sincere congratulation to everyone, to observe that the exceedingly important subject of diminishing, to a certain extent, the so frequent occurrence of the deplorable accidents caused in coal mines by explosions of fire-damp, is at the present moment absorbing so large a share of the public attention. This wholesome agitation can scarcely fail to prove productive of the most excellent results; whether it be by impressing the necessity of continual watchful care over the safety of their workmen on the minds of those among the colliery owners who have hitherto been most culpably careless of such safety, or by promoting the introduction of legislative interference, for the purpose of enforcing the adoption of precautionary measures, in most cases simple in the extreme, but which are unfortunately too often entirely neglected, when men to whose prudence are confided the lives of many are allowed to follow the dictates of their own individual judgment, which is too often perverted by ignorance or prejudice. But abuses so flagrant can no longer be allowed to continue; the public mind is filled with a just indignation at the callous indifference to human safety exposed during recent inquests on fatal accidents, which, in all probability, would not have happened had proper precautions been taken in time. I perceive with pleasure that your Journal contains many valuable communications on this important subject, and there seems every chance that the problems of lighting and ventilating in the best and most economical manner will soon be completely and satisfactorily solved.

Belgium is one of the most considerable coal producing countries on the continent of Europe; the surface over which extend its valuable coal-fields is extensive, and the mines numerous; the workings, from the very peculiar conformation of the coal strata, are exceedingly difficult and complicated, and few mines are free from an abundance of deleterious and inflamable gases; yet so complete are the precautionary measures introduced, that accidents are of exceedingly rare occurrence, and, in some mines, where natural disadvantages abound, the measures of precaution taken are such, that an explosion of fire-damp has almost become a physical impossibility. As it may prove interesting to some of your readers, I will briefly relate in what these precautionary measures consist.

Firstly: In the adoption of a light and portable safety-lamp, possessing a high illuminating power, and which, unless broken, cannot possibly give rise to an explosion under any circumstances; the lamp here employed is that invented by M. Mueseler, which appears to me to unite every quality which one can possibly desire in a safety-lamp. Doubtless, most of your readers are well acquainted with its construction; but, if not, I shall feel much pleasure in forwarding a detailed description in a future communication. The prineipal features of the Mueseler lamp are—that the light is surrounded by a very well annealed glass cylinder, of great thickness,* only the top part of the lamp being furnished with wire gauze within the lamp, and above the flame is a narrow iron chimney of a conical form; the air enters at the top through the wire gauze, down by the glass, and the ascending current, with the heated products of combustion, pass upwards through the metal chimney. The principal advantages of this lamp over the common Davy lamp are—1. That an infinitely superior light is obtained at a very considerably diminished cost, one "*litre*" of oil was required to supply nine Davy lamps, the same quantity is sufficient for 17 Mueseler lamps for 12 hours' labour; the reason of a superior light being obtained, with a diminished consumption of oil, is, that all smoke being prevented, and the chimney being properly adjusted, the maximum quantity of light is produced, and that, not being intercepted by the wire gauze, passes out unaltered and with undiminished brilliancy. In our coal mines there are about 500 Mueseler lamps in daily use. Some years ago none but Davy's were employed; but at the period of the introduction of the new lamp, we, like many others, adopted it mainly on economical grounds; for it had been satisfactorily proved, and subsequent experience fully demonstrated the truth of the prediction, that the saving of oil would in a very few months have paid the entire cost of the new material. We make the lamps ourselves for our own use, merely purchasing the glass cylinders; the cost of a Mueseler lamp here is 5 fr. (4s.), that of a Davy being about 3 to 3½ frs. But the principal advantage of the Mueseler lamp is, that it is almost perfect as a safety-lamp; in the Davy, when exposed to an explosive mixture, the wire gauze soon becomes heated, and the lamp is in a very little time worthless as a safety-lamp; perhaps, before the workman has had time to reach a safe part of the mine. Not so the Mueseler, which immediately is *self extinguished* in similar circumstances, and, therefore, there exists no possible chance of explosion—indeed, so much superior are they considered in this respect, that it continually happens in mines where a few of the old lamps are yet used, that the Government inspectors enjoin the exclusive use of the Mueseler lamps, in particular workings which present more than an ordinary degree of danger.

The next point to which I would refer is the simple and efficacious mode of ventilation employed at Ougrie, and subsequently in some other coal mines. This method consists—firstly, in the division of the current of air by means of doors with slides, as it is well described in Mr. Combe's excellent memoir on the subject of ventilation; and, secondly, by the admission of high-pressure steam into the chimney which communicates with the upcast shaft. The air descends by the pit which is used for raising the coal; and, after traversing the workings, is conveyed up a shaft, which communicates with a chimney raised to a considerable height above the surface. The coal is raised by a 20-horse engine, working at 3½ atmospheres. The discharged steam from this engine is conveyed into the draft chimney by pipes, which ascend vertically in the interior to a height of about 20 ft.—at which point the discharge of steam exercises a double action on the current of air, by propelling the current by its mechanical action, and dilating the air by the heat emitted. The adoption of this principle was found exceedingly advantageous, as, after the introduction of the jet of steam into the draft chimney, the rapidity of the current was augmented by about one-half of the primitive quantity.

In the third place, an important precautionary measure here adopted, is that the practice of blasting by powder is completely abandoned. It is impossible to enter into details on this subject, as the completely different conformation of the coal strata renders necessary a mode of working unlike that generally employed in English mines. Here the levels are carried along in the rock, and powder is generally used for the purpose of advancing these galleries. Many accidents had, however, been thus caused; and it was resolved to make every effort to render these impossible, by abandoning the practice of blasting in parts of the mine where there might be the slightest chance of the presence of explosive gases. After many experiments, it was found that this could not only be done, but would really be the means of effecting an actual economy. The means employed mainly depend upon preparing the work beforehand, so as to allow the schists to become sufficiently disaggregated to be easily worked with the miners' tools. There is but little more labour, which is more than compensated by the economy of powder; and the galleries, being no longer violently shaken by the detonations of the blasting, require less wood for their support; while that which is necessary lasts very much longer.

In conclusion, I must observe that Government inspection is in force here, and that it has not, to my knowledge, been productive of any but the most excellent results. The inspectors are engineers of the *Corps des Mines*—men who have passed through a course of complete theoretical study, followed by actual practice in the mines, and who are required satisfactorily to undergo the ordeal of several most severe examinations on points of theory and practice before being appointed to the responsible situations which they occupy. One is appointed to the *surveillance* of each district, and they are placed under the immediate control of the *ingénieur-en-chef* of the province. This inspection, while it certainly relieves the mineower from much anxiety, has a most salutary effect upon those who are intrusted with the conduct of the workings, as they are naturally anxious to merit the approbation of the inspector. E. Montefiore Levi.

Ingénieur aux Hauts Forneaux d'Ougrée.

Charbonnages et Hauts Forneaux d'Ougrée, Liege, March 23.

* Cold water may be thrown on the hot glass without its breaking; and, even when the glass is accidentally cracked, the lamp is yet in most cases perfectly safe.

VENTILATION OF MINES.

Sir,—It is quite amusing to observe, as soon as any discovery, or imaginary discovery, is made in art or science, how eagerly it is claimed by one and another, on the score of priority of invention. For instance, Mr. Struvè's "*mine ventilator*" is patented as *his* invention, which Mr. Hartop states "to have been introduced into this country by Mr. Taylor, upwards of 30 years ago;" but it is (if I remember right) the invention of M. Caignard Latour, many years before. It is true that Mr. Struvè's ventilator is somewhat of an *improvement* on the original invention, by the addition of a cover to the chambers—thus gaining the advantage of an upward as well as downward action; but this is all the difference.

Again, Mr. Hartop also mentions a paper which he read at Leeds, respecting the application of the fan-blower for ventilation of mines, as being applied, "five years back," by Mr. Furness to some coal mines near Whitehaven. I would just observe, that the fan for the purpose of withdrawing foul air from mines is a very old invention, of which an engraving and description is given in an old work on mechanics, by Emerson; and I have known its most effectual application, in 1836, for clearing a mine from *carbonic acid gas* which had been accumulating for a considerable time. On application of the fan at the upcast, the rapidity with which about a mile of workings were cleared was quite astonishing. The fan was only 3 feet in diameter, and worked by one man. Of its perfect efficiency for the purpose there can be no question; the only wonder is, how it should have been overlooked for so many years. Emerson does not say by whom it was invented, but mentions it amongst other well known machines.

Is it possible that Dr. George Dunn, or any one else, can for a moment imagine that mines can be ventilated by any other means than the *extraction* of the foul air, to be replaced by purer air rushing in to fill the partial vacuum? Can he expect that a passing breeze will be so concentrated by a simple funnel, directed towards it, as to set in motion a column of air of 1500 or 1600 feet in depth, and of several miles in length, through all the tortuous windings of a coal mine? Even a hurricane would have little or no effect; but what would be the consequence in a calm? The public are, no doubt, under an obligation to Dr. George Dunn for his good intention in "genuously dedicating" his supposed invention; but it happens to be no invention at all, as the cowl, or funnel, has long been in use in carrying a little fresh air down to miners sinking a well, or shaft, on the principle that, in the confined space in which the men are obliged to work, the air becomes rarefied by the heat of their bodies and lights, and naturally ascends, being replaced by fresh cooler air descending by the tube attached to the funnel, which is of course turned towards the wind. The same method of sending cooler air down to the engine-room of steamers has long been in use, and I believe also into the holds of vessels.

In 1841, I opened a small colliery for my own use, which had no other ventilating apparatus than a large funnel directed towards the wind; but the pit was not more than about 70 ft. deep, and the underground workings very trifling. I am certain it would be perfectly useless on a large scale. Mr. Gurney's method, by high-pressure steam, seems less liable to objection than any other, on account of its less likelihood of temporary stoppage from accidents, or wear and tear; but it seems that, to be perfectly efficacious, the upcast shaft must be used solely for this purpose, and all drawing coals, &c., be made by the downcast, as it would be scarcely possible to keep the mouth of the upcast sufficiently air-tight, if the apparatus were to be placed in a side chamber; and if it be in the shaft itself, how is it possible the men can ascend and descend through such a torrent of steam, since the steam jets must be equally dispersed over the whole area of the shaft? After all, perhaps, there would be no means so efficacious for insuring perfect ventilation as a plan mentioned to me, many years ago, by an ironmaster, now dead, of making the proprietors of mines responsible for all accidents, whether arising from imperfect ventilation or defective machinery, by either inflicting a fine to be paid to the surviving relatives, or saddling the proprietors with an annual payment for the support of widows, children, &c., in case of death, or compensation for injury sustained, when death did not ensue. Were something of this kind to become law, we should hear but very little more of explosions or defective ropes.—Lusor: *March 30.*

VENTILATION OF COAL MINES.

Sir,—It is pleasing to see the interest evinced by so many of your talented correspondents in the discussion of the all-important subject of ventilating collieries. We are disposed to think that many of the schemes which have been propounded will strike the practical man as being truly ridiculous, though they may appear feasible to a mere theorist. A great deal has lately been advanced in your columns respecting a safer and more effective light for the collier than the Davy lamp; and although some useful hints have been thrown out by disinterested parties, solely from philanthropic motives, yet it is an unmistakeable fact with those in active practice, that nothing has yet been invented to equal in safety, portability, and economy, the inimitable Davy, with its various modifications, but still retaining the wire gauze.

Mr. Horsley proposes to have a copper lamp, with a borrowed piece of Sir Humphrey's lamp, in the shape of wire gauze, for *exit of heated air and carbon*, to be supplied with fresh air from the surface by means of gutta percha tubing. Now, with all due deference to the genius and philanthropy of the inventor, who, doubtless, has no other end in view then the preservation of life and property, I venture to opine that, had he been practically acquainted with the various ramifications to be witnessed in the subterranean economy of a large colliery—headways, boards, walls, &c.—he would not have brought such a project before the public. The lamp itself would be useless in the hands of the collier; and we would beg to ask, wherein would be the utility of the gutta percha tube (already referred to) *in cases of pillars* being worked, and in cases of *falls* of the roofs, which, in some collieries, are occurring hourly? Herein are formidable difficulties which directly clash with the general utility of the scheme, and which cannot be surmounted without an enormous expenditure. Mr. Horsley, however, in your last Number, proposes to dispense with the feeding tube and cock where expense is an object, and to admit the air to support combustion through a perforation in the top-plate of the lower chamber of the lamp, consoling himself with the idea that "the carburretted hydrogen, from its *inferior specific gravity*, would naturally seek its ascension towards the upper part of the mine, and thus be out of contact of flame." Alas! if the poor collier's life is made to depend on the elasticity of the gas, or on the chance of the lamp being lifted to the roof. Can this be confidently relied upon as a safe guarantee for the security of life and property? In our judgment, the reply of the practical viewers of the day will be "Verily, no."

With regard to the best means of ventilating collieries, we want, first, the most effectual method of producing a *current*. Now, it is well known that almost any quantity of air can be obtained by machinery in various shapes, such as revolving fanners, exhausting cylinders, &c.: but there are insuperable objections against these methods, in consequence of the constant liability of such mechanical apparatus becoming suddenly deranged, broken, or stopped; and in large collieries where the whole of the air would be necessarily tied or entirely confined to such machinery, a cessation of such mechanical operations, even for a limited period, would be attended by the most lamentable consequences. Till very lately, the furnace has been by far the best agent for producing a steady current; but there now seems little doubt that it must eventually give place to a more effective and economical means—viz.: high-pressure steam.

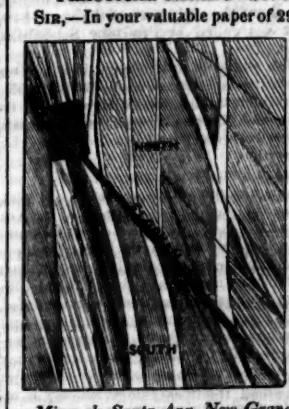
From the experiments recently made in Gateshead by Mr. Gurney, the inventor, in the presence of the Mayor of Newcastle, Mr. T. E. Forster, and several of the principal viewers of the district, I think the superiority of the high-pressure steam principle over all other methods already invented has been fully established, and I shall be glad to learn that your correspondent, "Carbon," of Manchester, has been initiated into the philosophy of the scheme, and is now sensible of its merits. He may rest assured, that if Mr. Gurney's plan will thoroughly ventilate Seaton Delaval (which is not a mere opinion but a fact), one of the largest collieries in the kingdom, it will do for the insignificant coal-holes near that newly-created city, which, according to your correspondent, are managed by parties notorious for "combining science with practice," and, consequently, have earned for themselves the eligibility of being selected as Government inspectors of mines, should the Government think proper to appoint any. But we would suggest to "Carbon" the propriety of not being too hasty in his recommendation to guide the determining power of Government in the selection of mine inspectors, for it needs no telescopic eye to discover that Government would select inspectors from districts where there have been, and are, suitable opportunities of combining PRACTICE with science!

For the information of "Carbon," however, it is only proper to say, that in sinking some of the large collieries in the north, it could not be determined at the outset which of the shafts were to be upcasts, not knowing the exact position of the seam as it respects inclination, contiguity to faults, feeders of water, &c. All scientific men will attach equal importance with "Carbon" to the necessity of having the upcast of larger dimensions than the downcast; but common equity requires us to add, that the violation of this generally admitted principle, to which he refers, cannot legitimately be preferred against the present manager of Seaton Delaval Colliery, inasmuch as the upcast shafts were made long before he was officially identified with the establishment. King Coal.

Wigan, April 3.

PRACTICAL MINING—ST. ANA MINE, NEW GRANADA.

Sir,—In your valuable paper of 29th July, 1848, under the head "Practical Mining," page 360, I find that Mr. Evan Hopkins acquiesces in Capt. Spargo's ideas, that there are no true heaves in an east and west direction. Mr. Hopkins then refers to plate 18 of his work on *Geology and Magnetism*, where an east and west heave is shown. The silver veins in slate, represented in the plate referred to, are those of the St. Ana Mine, which was for some time worked under Mr. Hopkins's superintendence, and is now under my charge. In proof of what I state, I inclose Mr. Hopkins's own plan of the lodes in question at the point of intersection by the oblique flookan. The entire plan, from a duplicate of which the enclosed is a part, may be referred to at Messrs. Powles Brothers and Co., 13, Austinfriars.



Minas de Santa Ana, New Granada, Feb. 17. R. J. Treffry.

[We readily give insertion to the communication of our correspondent—judgment on the merits of which, however, must, of course, be withheld until our next, when, doubtless, a reply from Mr. Hopkins will appear.]

COPPER SHEATHING.

Sir,—I rejoice to see Mr. Prideaux in the field again, anxious to discuss the matter of copper sheathing with the practical smelter; but Mr. Prideaux cannot be ignorant that his request, however modestly asked, will not likely be answered as he wishes. Were we, the smelters, asking Mr. Prideaux, as a chemist, to give his opinion and experience upon the matter of sheathing, I doubt not but he would first inquire if the question was *official*. Now, we have nothing to depend upon but our knowledge and experience of our trade, and each thinks he knows something not generally known. I would, therefore, ask Mr. Prideaux if he would consider it proper for us *openly* to give our experience? I can assure Mr. Prideaux that the smelters are as much alive as he is in the matter of sheathing, and could give him much information on that subject, which, in connection with his experience, would solve many difficulties, and remedy many evils; but would the benefit of such an inquiry belong to—*who?* Was Mr. Prideaux acting as disinterestedly as he would have us act, he would publish his experience—his analysis of good and bad sheathing, &c., and would thus enable the practical man to know the impurity he has to get rid of to make good sheathing, as these facts are all we require. If Mr. Prideaux is really in earnest, will he be willing to answer, through your Journal, any question which may be put to him upon his practical experience in the matter of sheathing? and I will answer, so far as I can, any practical question upon smelting which he may put in return.—J. J.: *Kilvey, Swansea, April 10.*

REDUCTION OF SILVER ORES—COLOMBIAN MINING COMPANY.

Sir,—Although the opinion, "that it was too late for that mining company," &c., has been so positively contradicted, I believe Mr. Hopkins himself will admit, even by the subjoined *data*, that I have not drawn an incorrect opinion. Perhaps, Mr. Hopkins can point out some errors in the *data*, with which I am unacquainted. The *Quarterly Mining Review*, for June, 1830, contained a review of the seventh report of the directors of the Colombian Mining Association, in which the writer makes the following significant remarks on the processes of smelting and amalgamation:

"We extract the following, as another evidence, if such be required, of the errors into which the mining companies, formed in 1824 and 1825, naturally fell from want of practical information and experience, and the consequent difficulties attendant the establishment of works, and the delays arising in bringing them into a state of perfection. It appears, from former reports, that the directors expected the smelting-house would be completed before Christmas, 1827; and that the period was then fast approaching when the smelting process would be in full and permanent activity. These expectations have not been realised. The Santa Ana smelting-house was completed within the contemplated period; but all attempts to smelt there had failed. These failures are to be attributed to the want of practical experience in the reduction of silver ores on the part of those who originally designed the reverberatory furnace, as well as on the part of those who were sent out to carry on the smelting process. 'It is now ascertained (to use the words of the report) that a heat of a sufficient degree of intensity for fusing silver ores cannot be raised with charcoal in a reverberatory furnace; and that this object can, with such fuel, be alone properly effected in an upright shaft furnace, provided with an adequate blast. The real cause of these failures is to be found in the impossibility of procuring in this country persons practically acquainted with the smelting of silver ores—such ores being rarely met with in the mining districts of this kingdom; while in Colombia, there is no part remaining of the German amalgamation establishment formed at these mines under Mr. D'Elhuyar.'"

After the above long extract, I feel I must cease to encroach on your valuable space by not quoting further, and not adding any remarks of my own.—W. Birkmyre: *London, April 11.*

FERMENTATION.

Sir,—You are perfectly right in the remarks you made a week or two ago among your "Notices to Correspondents," in reference to the source of acidity in the atmosphere—namely, the inversion of its chemical constituents. This readily and naturally accounts for the *acidity* superinduced in fermented liquids. In consequence of a singular announcement by M. Nasse, of St. Petersburgh, it seemed to me a question of much curious interest to ascertain the office sustained by the carbonic acid gas developed in the act of fermentation. With this view, aided by the kindness of the late Mr. Charles Spurrel, the following experiment was made in the great brewery of Messrs. Barclay, Perkins, and Co., in the year 1819:—Two bottles were half filled with porter from the fermenting guile, and two also of ale from the fermenting vessel; these half filled bottles were hermetically sealed. Similar experiments were made with others; but in this case the bottles were filled up with carbonic acid gas, and in like manner sealed; all being duly labelled and dated, were put past. In 13 months these were severally examined. Those *without* carbonic acid gas were somewhat acid, and otherwise repulsive as a beverage; while the others, which had been supplied with carbonic acid gas, were in remarkable contrast, and very pleasant to the taste. The former had, in fact, suf

fered decay and decomposition; and the latter had evidently been preserved by the carbonic acid gas—its conservative properties being thus established. The late Mr. Buchanan, of St. Nivian's, Stirling, on my recommendation, carried into effect fermentation in close vessels, &c., and some years subsequent, Madame Gervais took out *a patent* for fermentation in close vessels.—J. MURRAY: *Portland-place, Hull, April 5.*

THE INJECTION OF WOODS.

SIR,—Few things amid the phenomena of invention and ingenuity which teem in the "great metropolis" to overflow, excited in my mind greater interest than the injection of indigenous woods by colouring matters, by the process of M. Renard Périn. Here three distinct purposes are secured. The wood may be blanched with a whiteness even excelling that of ivory; it may thus, in fact, be made to undergo the same bleaching process by the same means that are employed in bleaching linen or calico. Thus, also, are mordants injected and colours fixed, as in dying and calico printing; while the injection, by this process, of an antiseptic entirely preserves the wood from the agencies of decay and the attacks of the *Merulius lachrymans* and *M. destructor*, or of "wet and dry rot."

I am forcibly reminded of the elegant experiments of Prof. Ehrenberg, of Berlin, by means of which the internal structure of the polygastric infusoria, or infusorial animalcules, was revealed to the eye. These are as transparent as their native medium; but by being transferred into capsules containing water, coloured with indigo, saffron, or carmine, and then changed to a colourless medium; their internal organisms stood revealed in all their wonderful complication. In like manner, by the manipulation of M. Renard Périn, and by the coloured injections of the cellular tissue, and the interstices interwoven throughout the ligneous skeleton, their beautiful arrangement stands confessed in all its loveliness and symmetry, and confers a new interest on the physiology of plants.

Nor are the simple means by which this consummation has been achieved the least interesting part of the *toute ensemble*. That the concentric cortical cylinders should so insulate the internal skeleton, as alone to form an air-tight easement, I frankly own surprised me, and is a fact for which I was by no means prepared. The indigenous woods thus injected, called *bois exotypes*, have developed forms as elegant and colours as harmoniously combined as some of our rarest exotic woods can display. I have seen beech, elm, sycamore, poplar, &c., thus impregnated, and have admired them all. Several years ago, Dr. Boucherie proposed to inject, if I remember right, solution of sulphate of iron, for the purpose of securing timber, when felled, against the "dry rot." This was done, however, by penetrating the tree by a centre bit, and thus introducing the solution, leaving the process of natural circulation to diffuse the material throughout the vegetable structure. These remarks, however, are *simply preliminary*, for the subject is too curious and interesting to be thus summarily dismissed.—J. MURRAY: *Portland-place, Hull, April 5.*

VENTILATION.

SIR,—The grand and notable errors which have prevailed in coal mines in reference to ventilation, appear to be the stray and preposterous assumption that currents of air might be tampered with in any way that ignorance choose to interfere—that they might be split and subdivided *ad infinitum*, made tortuous, and thrown into eddies, or deflected from angles, or impeded, and even neutralized, in their onward path, forgetful that air will pass along the most direct channel, and is materially affected by curves and angles, and its force and power disturbed, attenuated, or even neutralised, by being divided and subdivided. *One* shaft can never ventilate a mine; its division by brattices will be found a poor apology; and if there be even two shafts, and the upcast shaft tampered with by descending corves, as far as ventilation is concerned, the upcast shaft is a *misnomer*. If the air be moving under a certain ratio, a change in the barometrical pressure of the atmosphere may tend to the evolution of "fire-damp," and contravening the free currency of the air, give rise to the formation of an explosive atmosphere.

The furnace under the upcast shaft but very inadequately fulfils its object; unless supplied with bituminous coal yielding flame, it is of little or no use, and it should, to be of service, have a long chimney passing up the upcast shaft to a considerable elevation. Located near the summit of the shaft, it would be far more effective if a pipe of considerable diameter at its lower orifice, and contracted in its dimensions, entered the furnace from below. *Cold air* will rush *down* the upcast shaft from above to the furnace below, unless the draught occasioned by the ascending heated air be very considerable indeed. The consequence would be contending currents and a neutralised ventilation. All these things may be demonstrated by Mr. Biram's excellent anemometer. J. MURRAY.

Portland-place, Hull, April 11.

NEW WATER FILTER.—A new description of filter, adapted for the perfect filtration of water, for the supply of towns, or for any other purpose where a large quantity of pure water is required, has been invented by Messrs. T. and W. Stirling, Bow Bridge Slate-Works, Stratford, Essex. The objects and advantages of this apparatus are stated to be—1. While it is capable of being so combined as to filter large quantities of water, it also acts upon each gallon that passes with the same minuteness and delicacy as the chemist employs for his most careful operations.—2. It is made of a material upon which water has no decomposing effect.—3. While it may be readily cleaned, it is in no degree liable to get out of order.—4. It occupies but a small space compared with the quantity of water filtered by it; and 5. It is so arranged as to be guarded from the disturbing effects of frost or rain, and protected from soot, smoke, and dust. A series of slate boxes or cisterns, the size and number of which are regulated by the quantity of water required to be filtered, are so placed that the reservoir or pipe from which they are supplied shall have a head of water of about 2 feet 6 inches. The water passing along the main pipe enters each filter at the bottom through a branch pipe, and passes through three strata of filtering medium (the lowest of which rests upon a hollow basis, across which a fine wire gauze is stretched), through which it rises to the top of the filter in a perfectly pure state. The filtered water then passes from the top of each filter through a small pipe into a slate channel, along which it runs into the pipe, reservoir, or other receptacle for the filtered water. The filtering medium consists of three strata of incorrodible mineral substances, and the chamber in which they are placed admits the introduction of a hair brush, such as is used for cleaning bottles, and with this the bottom of the filter bed is readily cleaned of all residuum in a few minutes. The apparatus can be adapted to filter any quantity of water from 500 to 50,000,000 gallons, and may be applied not only to domestic use, but to the purposes of paper-makers, brewers, distillers, chemists, bleachers, wool-staplers, printers, and other trades for which large quantities of pure water are indispensable. The usual method of filtering water supplied to towns is by means of reservoirs of subsidence and filter beds, which occupy a large space of ground, and at the best effect the object very imperfectly. This apparatus, however, can be so managed as to occupy only about 1-20th part of the space required by the other methods now in use, and may be enclosed in a covered building, so as to protect it from rain, soot, and dust, and, when necessary, warmed by flues to prevent the action of the filters from being impeded during severe frost.

PATENT-LAW REFORM.—The amendment of our laws regarding the protection of inventions has always been a subject that interested us in the highest degree, being assured that, until these laws are brought into true consonance with equity and common sense, the progress of the useful arts will be limited and circumscribed to an extent highly prejudicial to our commercial interests. In the *Mining Journal* of March 17 and 31, we adverted to a very flagrant abuse, perpetrated under cover of the present law; and in the latter Number, in which we remarked upon the strictures of Mr. Campin on the case alluded to, we stated in a foot note, that a "short time since an important petition was presented to the House of Commons, by Mr. Muntz, from Birmingham, for a revision of the Patent laws," omitting all mention of the petition of Mr. Campin and others, which was presented by Mr. Hume to the House of Commons, and given in our columns in April last year, and which received our cordial assent and support. We have been reminded of this omission, by Mr. Campin informing us that he is about to agitate the matter again by the re-presentation of his petition. As his object is to sweep away the really oppressive part of the law, he is desirous to communicate with any parties on the subject, with a view to co-operation. We briefly recapitulate the points of this petition as it at present stands, remarking that it is desired to add any other points thereto that can be shown to be of urgent import. The petition prays for such measures as—1. shall lighten the heavy expense of patents, by allowing their issue upon the payment of *annual dues of small amount*, instead of upon the payment of large sums before getting the patent, as now.—2. Fix the *priority* of a patent on the day of *application*.—3. Define the nature of an invention *before granting a patent for it*.—4. *Reduce the enormous expense* attending the *litigation on patents*.—5. Protect patentees by caveat against the peculiar operations of the Designs Act—and 6. Cause the Government to have a classified and *authentic* list of patents kept for reference, that parties may readily ascertain what has been already patented.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending April 7, was—No. of passengers, 18,351.—Amount of money, £76 9s. 3d.

ON PYROGEN.—No. II.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

It is well known that, within a certain distance, two masses of matter repel each other, and that beyond this distance mutual attraction exists between them. This law is found to stand good with all matter, whatever the size of the mass may be; therefore each atom of matter repels all others within a certain range. This property of matter is found to belong to pyrogen, in which it is developed with extraordinary intensity. When collected on the conductor of the electric machine, or on a sphere, it remains only on the outer surface, and does not even penetrate to the interior of a cylinder of wire gauze: so energetic is its action in this way, that where there are points or elevations on the surface, it is found to gather there in the largest quantities, from which also it has the greatest tendency to pass off to surrounding bodies, and discharge itself into the air.

Under the operation of this law, pyrogen is forced from the interior parts of our globe and maintained at its surface; and not only is this the case, but it has been found by experiment that every vertical column of a dry cloudless atmosphere, whatever may be its dimensions, is constantly electropolar in one and the same direction, having its positive pole upwards. "I have," says Mr. Sturgeon, "had three kites, and sometimes five, at different altitudes at the same time, and have transmitted sparks from one to another from the top to the bottom of the series; in every case I found the uppermost of a pair to be the positively electrized stratum of the atmosphere."

From this we may see the cause of the ponderability of pyrogen having hitherto escaped attention. Its general tendencies are quite in another direction; not because the fluid is not attracted by the earth, but because the force with which its particles endeavour to separate and find a larger circumference over which to diffuse themselves, is such that they actually rise into the bad conducting medium of the atmosphere to give way to it. This obedience of the particles of pyrogen to a purely mechanical law affords further proof of the materiality of the electric fluid.

Two other influences should be noticed that promote this upward tendency—namely, the centrifugal force arising from the earth's motion on its axis, and the attraction of the sun. The first of these does not appear to require comment. With respect to the second, the sun attracts the electric fluid, as well as the water of the ocean and the other matter of which our globe is composed, and, in consequence, raises an electric wave which follows his daily course, the truth of which hypothesis is proved by the existence of magnetic tides. The experiments in my previous paper, showing that pyrogen is heavier than atmospheric air, would lead to the supposition that the fluid should be in greater quantities at the surface of the earth than in the higher regions of the atmosphere. The above explanations, however, afford a sufficient reason for the reverse being the case.

From the action that takes place in the galvanic trough, I was led to the conclusion that pyrogen may be produced from water. Putting a small galvanic arrangement, consisting of a plate of zinc 2 in. by 4 in., with double coppers, into a clean half-pint tumbler, I insulated the wires, completing the circuit by proper supports for the purpose. On pouring in the acid solution, an electric current was developed. The insulation of the contents of the glass and the wires completing the circuit being as perfect as it was possible to make it, the fluid could not have proceeded from without. Neither could it have been a primitive substance, *created* by the chemical action of the contents of the glass, but must have existed in them before the experiment, or been formed by a fresh combination of the released elements, unless it was one of the released elements themselves.

The electrolytic action that takes place in the trough is known to be the decomposition of the water; we may, therefore, conclude that pyrogen is a constituent of water, which is confirmed by the fact that water is formed by the union of oxygen and hydrogen by the electric fluid. As it thus enters into the formation of water, when the latter is resolved into its elements, the pyrogen is released. This proves the truth of the chemical theory of the source of the electrical disturbance in the galvanic battery, and explains the reason of the chemical power of the battery being in proportion to the quantity of zinc oxidised and water dissolved.

Ignition results from the union of gaseous matters by means of pyrogen. Thus, a mixture of oxygen and hydrogen explodes by the application of it in the form of a spark; if, instead of a quantity being exploded at once, the gases pass into the atmosphere through pipes, as in Daniel's oxy-hydrogen jet, they burn together by a continuous explosion. The flame of a lamp, or candle, results from the same principle; the tallow, or oil, is dissolved, and the released gases unite by a continued series of explosions with the oxygen of the atmosphere, maintaining a constant light. It will thus be seen, that a common candle is an example of the electric light—the gas, from its decomposition in the wick, and the oxygen of the atmosphere being the electrodes, the carbon giving the brightness to the light. After the above, the ignition of metals in acid solutions admits of easy explanation, as will be perceived by the application of the principle to the following experiments made by Messrs. Pollock, Gann, and Mackrell—(*Proceedings of the London Electrical Society*, 1841-2, p. 6.) The acid solution, through which the currents were passed, consisted of 1 part sulphuric acid, and 10 parts distilled water, in a common drinking glass, that held about a pint,

Experiment 1.—Iron wires (No. 26) were attached to the terminal wires of the battery—that connected with the positive was first immersed in the solution, and the circuit completed by the immersion of the negative wire; the latter burned with a beautiful reddish flame. This would result in the following manner:—Hydrogen and pyrogen being present at the negative pole, having been released on the decomposition of the water, and the oxygen of the acid having a greater affinity for these than for sulphur, the acid is decomposed, the sulphur deposited on the negative electrode, and the released oxygen combining with hydrogen and pyrogen, ignition takes place. When the experiment is reversed, and the negative wire first brought into the solution, the circuit being completed by the positive, the latter became red-hot to the extent of 1½ in. under the solution—a result to be attributed to the accumulation at the poles of the unconnected pile rendering the current more powerful when contact is first made than at any other time during its continuation. No flame appeared at the positive pole, there being no hydrogen present, all that obtained escaping at the positive electrode. Ignition does not take place at the negative pole when the circuit is completed by the positive, as it seems to require the shock and intensity of action resulting from the accumulation to produce flame. In the same manner, the mere presence of a current of pyrogen does not fire a mixture of oxygen and hydrogen, but it requires an interruption in its progress sufficient to produce a spark to do so. The nature of this action is worthy of investigation.

Experiment 2.—A platinum plate, an inch long by half an inch wide, being attached to the negative wire, and a small iron wire at the positive, the platinum being first inserted in the solution, and the circuit completed by the positive wire, it became red-hot an inch and a half under the solution, as in the last experiment, and from the same cause; but when it was only brought into contact with the surface of the solution it fused, which was prevented by the immersion.

Experiment 3.—When the iron wire was placed at the negative end of the battery, and the platinum at the positive, the platinum being first put into the solution, and the circuit completed by the iron wire, the latter burned with a red flame. This would result from both oxygen and hydrogen being present at the negative pole, as in the first experiment.

Experiment 4.—A fine copper wire was attached to the positive terminal, and a platinum wire to the negative. The platinum being first immersed, and the circuit completed by the copper wire, the latter was heated an inch under water. The cause of there being no flame is the same as in the former experiments; for the copper wire being at the positive electrode, no hydrogen was present to produce it; but when the experiment was reversed, and the copper wire placed at the negative termination, and the platinum at the positive—the latter being first immersed, and the circuit completed with the former—the copper, or negative wire, burned with a bluish flame; oxygen and hydrogen being, as before, present at the pole.

Experiment 5.—A slip of zinc was used instead of copper wire, and with the same results; for when placed at the positive termination, and the platinum at the negative, the latter being first immersed in the solution, the zinc was heated an inch below the surface of the liquid; but when the zinc was placed at the negative, the platinum at the positive, and the latter first immersed, the zinc at the negative burned with a purple flame—the two gases being present, as before, at that pole.

Experiment 6.—With platinum at the positive, and sulphuret of antimony at the negative, the platinum being first immersed, the antimony, or negative electrode, fused and inflamed, depositing on the glass and surface of the solution an orange coloured powder, resembling Kermes's mineral. When the sulphuret of antimony was at the positive, the platinum at the negative, and the latter first immersed in the solution, white fumes were given off by the sulphuret, but it was not ignited; for, as in the preceding experiments, there was not hydrogen at the positive pole.

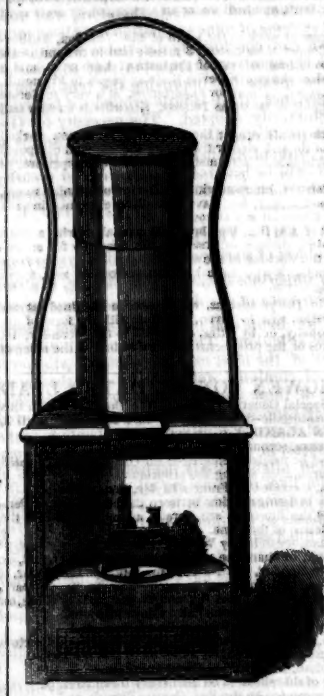
Experiment 7.—When an iron wire was placed at the positive, and a charcoal point at the negative termination, the iron wire being first immersed, immediately the charcoal touched the solution it became very brilliant. But when the experiment was reversed, this did not occur; for when charcoal was at the negative, hydrogen was present, but not when at the positive.

The following hypothesis of the origin of light will not be out of place here. It will have been observed, in the description of the experiment with the fractured Leyden jar, that light is developed during the passage of the pyrogen from the crack and lip in the jar; and it has been satisfactorily proved that it is in a constant state of circulation about the earth and in the atmosphere. In this circulation light must be developed; and hence the luminosity of our planet, so frequently seen at night—a phenomenon that has also been noticed at times in the planet Venus. Let us now ascend a little higher, and apply these laws to the sun, with its heavier atmosphere—under the pressure of which it is probable that bodies, volatile and fluid with us, become liquids and solids. The circulation of the fluid on that sphere being more rapid, and through a denser medium than with us, exhibits a greater intensity of light, as it has a greater opposition to overcome in its passage. On the sun, as on the earth, the fluid naturally seeks the upper regions of the solar atmosphere; and, governed by the centrifugal force and the attractions of the planets, produces the appearances known as the zodiacal lights.

The above hypothesis concerning light, applies equally well when applied to observed phenomena on the moon, where the atmosphere is so raw, that astronomers doubt whether there is any at all. As the moon revolves on its axis only once a month, the currents of pyrogen must be exceeding slow, and quite insufficient to carry on the various chemical processes necessary for the support of the vegetable world; and no signs of vegetation have been discovered upon its surface, although Lord Rosse's telescope is of sufficient power for the purpose, if grass, or anything of the kind existed there, since it would give a green colour to the soil; whilst it is observed to be of a brownish hue. The dull movement of the fluid, and rarity of the atmosphere, accounts for the absence of self-luminosity in the moon.

BIRAM'S MINERS' LAMP.

While the late dreadful explosion at Darley Main is fresh in the minds of our readers, and the public attention is so painfully directed to the awfully frequent recurrence of such dreadful catastrophes, any invention which may prevent in any way the occurrences of such calamities, cannot but be regarded with great interest, and hailed with satisfaction by all classes of the mining interest. It is, therefore, with great pleasure that we present to our readers a section of a lamp invented by Mr. B. Biram, and which has been tested at the Wentworth Collieries.



This lamp, which is about the size of a common Davy lamp, is excessively simple in its construction, and easy in its management; it can be used with common oil, which is to be placed in the oil vessel, which should accurately fit in the metal casing. In the oil vessel is a flat tube, through which the wick rises. The height of the wick is regulated by a rack and pinion; the axis of the pinion fits into a key on the back of the casing, which is turned by a button, or stud, on the outside. The inside of the casing forms a reflector, or a detached one may be used; fixed into the back of the casing is a strong jointed wire, level with the top of the wick-tube bent at the inner end at right angles, for the purpose of occasionally pushing off the carbonised matter from the top of the wick; or, which is still more simple (and which would dispense with the rack and pinion and jointed wire above described), the ordinary circular wick might be used, and be regulated or used by a pricker working and sliding in a ball and socket joint, fixed in the back of the lamp. The door of the lamp in front slides down grooves on each side into the bottom of the casing: it has a flanched top, and fits accurately, being closed with a spring catch into the top of the casing, which cannot be opened without a key. The chimney has an opening at the back, into which a piece of wire gauze is slid. Over all is a loose top, which receives the whole, and prevents a current of air rushing down the chimney—the gases of which would extinguish the light. The front part of the door for emitting the light can be made either of talc or wire gauze; if of talc, the air for supporting combustion would be admitted through the network, as shown in the section. The light emitted through the wire gauze is fully equal to that of a naked candle, and through talc considerably greater.

One great advantage that this lamp appears to possess is, that when placed in an inflammable atmosphere, the air not having any ingress but through the door, would ignite immediately, and burn within the wire gauze with a slight blue flame. The further supply of oxygen being thus cut off from the wick, the light, unless immediately withdrawn, would be extinguished; no danger could, consequently, ensue to the bearer, who would merely suffer the inconvenience of being left in the dark. As he would have to communicate to the person who carries the key before his lamp could be rekindled, there could, therefore, be no possibility of any of the workings being impure without the knowledge of the superintendents, and, consequently, measures could be taken to prevent accidents.

The objections which have been urged against several other lamps would not apply to this, as it will not burn in an atmosphere so charged with gas as to be explosive; and as it is perfectly protected from currents, a greater supply of fresh air could be introduced into the pit, and the objection of there being too much air (which sweats the candles too quickly) be avoided, so that the men would have no motive for diverting it from its proper course. It may be urged that it is sometimes necessary to go with a light into places which are explosive. A man should remain in such an atmosphere as little as possible, as it is prejudicial to his health; but when it cannot be avoided, such a case may be met by using a talc door with the lamp, provided with a circular orifice for the admission of air for support of the flame, protected by wire gauze, over which may be screwed one end of a flexible tube of vulcanized Indian rubber, of such a length that the other end would reach into pure air. The lamp has been tested, and found efficacious; and we trust that its publicity will render it of further utility in those districts where prevention to explosion by foul air is so much needed.

RAILWAY TIME-SIGNAL.—Mr. J. S. Torrop, of London-street, Edinburgh, has just completed an invention devised to meet a great want, which has long been felt, for some certain and effective means of informing or warning the public of the approaching departure of passenger trains, steam-boats, &c. Bells rung within or near the station cannot answer the purpose, the sound being easily stifled, and apt to be regarded, when loud enough to be heard at any distance, as a nuisance. Clocks are still more useless, as they are visible only at short distances, even when they can be placed on conspicuous positions. This time-signal, or railway trains' monitor, consists of a moveable ball mounted on a lofty pillar, wound up to the top by clock-work, and taking a definite time to descend. For railways this time is set to 10 minutes. When the ball is seen at the top of the pole or pillar, passengers approaching the station are informed that they have 10 minutes; if half down, 5 minutes, and so on. Being capable of being made a most conspicuous object, its indications can be distinguished at a considerable distance by intending passengers, who are thereby saved all unnecessary excitement and uncertainty in making their way to the station, while the officials are also saved from annoyance of questioning as to the time the train is due.

Contract for Copper.

DEPARTMENT OF THE STOREKEEPER GENERAL OF THE NAVY, Somerset-place, April 10, 1849.

THE COMMISSIONERS FOR EXECUTING THE OFFICE OF LORD HIGH ADMIRAL OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND, do hereby give Notice, that on Tuesday, the 24th inst., at One o'clock, they will be ready to TREAT with such PERSONS as may be willing to CONTRACT for SUPPLYING Her Majesty's Dockyard at CHATHAM with

TWO HUNDRED TONS OF ENGLISH TOUGH CAKE COPPER 40

One half to be delivered in three weeks, and the remainder in six weeks from the day of treaty.—A form of the tender may be seen at the said office.

No tender will be received after One o'clock on the day of treaty, nor any noticed unless the party attends, or an agent for him, duly authorised in writing.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words, "Tender for Copper," and must also be delivered at Somerset-place, accompanied by a letter, signed by two responsible persons, engaging to become bound with the person tendering, in the sum of £4000, for the due performance of the contract.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—The SIXTH ANNIVERSARY FESTIVAL of this Institution will be HELD at the LONDON TAVERN, Bishopsgate-street, on Wednesday, April 18, 1849.

The Right Hon. Sir JAMES DUKE, M.P., Lord Mayor, in the chair.

STEWARDS.

Right Hon. Lord Dudley Coutts Stuart, M.P.	Thomas Hawkins, Esq., V.P.
Hon. C. P. Villiers, M.P.	Richard Harst, Esq.
Frederick Fenny, Esq., Master Cutler of Sheffield.	R. W. Kennard, Esq., V.P., and Trustee.
Sam. Thorton, Esq., Mayor of Birmingham.	T. W. Kennard, Esq., V.P.
Rev. Thomas Barnet, D.D.	Thomas Lambert, Esq.
Wm. Barrows, Esq., V.P.	Henry Lovridge, Esq.
John Brown, Esq., V.P.	William Massey, Esq.
W. S. Burton, Esq., V.P.	Richard Moser, jun., Esq. 41
Reuben Bull, Esq.	Joseph Oliver, Esq., V.P.
Thomas Constable, Esq.	George Oliver, jun., Esq., V.P.
John Dale, Esq., V.P.	Joseph Oliver, jun., Esq., V.P.
Richard Dale, Esq.	Richard Peyton, Esq.
William Dray, Esq.	W. H. Richardson, jun., Esq.
Nathaniel Davis, Esq.	Benjamin Ridge, Esq.
Jeremiah Evans, Esq.	George Scamell, Esq.
Henry English, Esq.	T. B. Simpson, Esq., V.P., Treasurer and Trustee.
Samuel Ellis, Esq., V.P.	H. L. Taylor, Esq., V.P., and Trustee.
B. Fowler, Esq., V.P.	W. Thompson, Esq., Alderman, M.P.
A. H. Farwig, Esq.	Thomas Thornely, Esq., M.P.
John Faulkner, Esq.	F. A. Tiddeman, Esq.
William Gould, Esq., V.P.	Joseph G. Walker, Esq.
David Gilmour, Esq.	Lynch White, Esq.
James Hardy, Esq.	William Whitley, Esq.
Samuel Hawkins, Esq., V.P.	D. L. Williams, Esq.

Dinner on Table at half-past Five for Six o'clock precisely.

Tickets, price One Guinea, may be had at the bar of the London Tavern; of any of the stewards; and of THOMAS HAWKINS, Secretary,
67, Upper Thames-street, London.

HOLNE PARK TIN AND COPPER MINE.
(WORKED ON THE COST-BOOK SYSTEM.)

Capital £7680, in 1536 shares, of £5 each.—Deposit £2 per share. 42

OFFICES—18, ADAM-STREET, ADELPHI.

This valuable MINERAL PROPERTY is situate in the parish of HOLNE, in the county of DEVON, on the banks of the River Dart, and held under an agreement for lease of 21 years, at 1-12th dues.

This mine is a new discovery, and now at work to the south of the Whiddon, Ashburton United, and West Beam Tin and Copper Mines, about 3 miles; and to the north-east of Coombe Tin Mine, 1 mile. It is about 2 miles west of the town of Ashburton, and 8 miles from Totness, through which place the South Devon Railway passes to Plymouth, by means of which the ore can be conveyed to port for exportation, at a very moderate expense. The River Dart being navigable as far up as Totness, also affords an easy and cheap mode for exportation.

The sett is in a beautiful killas, or clay-slate strata; there are four lodes now worked on, and there are several large lodes of tin and copper traversing the sett—all composed of gossan, soft spar, prian, mundic, carbonate of lime, and large rocks of copper ore, of rich quality (from 14 to 26 per cent.)

To the west of this sett the lodes form a junction with the Dartmoor granite range, where the great deposits, both of tin and copper, &c., have been discovered, making the largest and most productive mines in Cornwall and Devon.

The River Dart, running at the foot of the hill, can be made available (with a small outlay) for all the purposes of the mine, thereby superseding the necessity for steam-power, and causing a great saving in the working of the mine.

The reports of the various mining captains who have lately inspected the sett, speak in the most flattering and encouraging terms.

These reports are set out at length in the prospectus, which can be obtained at the offices, where also every other information will be given, together with the form of application for shares, by applying personally, or by letter, addressed to the secretary, 18, Adam-street, Adelphi, London.—Copies of the prospectus can also be had at the office of the *Mining Journal*, 26, Fleet-street.

PENNANT AND CRAIGWEN CONSOLIDATED LEAD MINING COMPANY.—At a Special General Meeting of the shareholders in this company, held at the offices, 57, Threadneedle-street, London, on Wednesday, April 3, 1849, ROBERT OWEN ALAND, Esq., in the chair,

It was proposed by the Chairman, seconded by G. R. Metzler, Esq., and

Resolved,—That the report now read be received, entered in the cost-book, and printed with the balance-sheet annexed, for circulation among the proprietors.

Proposed by the Chairman, seconded by Francis Taylor, Esq., and

Resolved,—That the amended terms of amalgamation between the companies of Pennant and Craigwen be approved, and the directors are hereby authorised to take the necessary measures for the full completion of the same. 43

Proposed by the Chairman, seconded by W. Lister, Esq., and

Resolved,—That a call of 8s. per part, or share, be now made. That 2s. per part, or share, of the same be paid on or before Monday, the 16th instant, and the remainder, if required, at intervals of two months, and in payments of 2s. each—namely, 2s. per part, or share, on or before June 16; 2s. on or before August 16; and 2s. per part, or share, on or before October 16, 1849. Notices to be given of each call 14 days previous.

Proposed by the Chairman, seconded by William Beard, Esq., and

Resolved,—That Francis Thompson, Esq., and Robert Doubleday be nominated directors of the company, and that they be requested to give their adhesion to this resolution.

Proposed by the Chairman, seconded by Alfred Smith, and

Resolved,—That a general meeting of shareholders be held every three months.

Proposed by Charles Smith, seconded by the Rev. George Pocock, and

Resolved,—That the best thanks of the shareholders are due and are hereby given to the chairman and directors for the very efficient manner in which they have gratuitously conducted the affairs of the company.

Proposed by the Chairman, seconded by Thomas Marston, Esq., and

Resolved,—That the best thanks of the shareholders be given to the purser, for the attention and zeal which he has always shown in the performance of his duties; and they regret that the position of affairs should still prevent a more substantial acknowledgment of his services.

Proposed by the Chairman, seconded by the Purser, and

Resolved,—That the shareholders regret that circumstances should have occurred to lead to a severance of Messrs. Pocock and Marston from the company as the solicitors, and take this opportunity of expressing their sense of the careful and judicious manner in which the legal affairs have been conducted.

Proposed by the Purser, seconded by G. R. Metzler, Esq., and

Resolved,—That the Chairman do leave the chair, and that Captain Rose be requested to preside. R. O. ALAND, Chairman.

Captain Rose having taken the chair, it was

Proposed by the Chairman, seconded by the Rev. G. Pocock, and

Resolved,—That the thanks of this meeting are due, and are hereby tendered, to R. O. Aland, Esq., for the impartial and very efficient manner in which he has presided this day.

THOS. ROSE, Chairman.
WM. W. MANSELL, Purser.

DRAKE WALLS MINING COMPANY.—At the Annual General Meeting of the shareholders in this company, held at 44, Finsbury-square, on the 12th inst., PETER STAINSBY, Esq., in the chair,

The following resolutions were passed unanimously:— 44

That the reports and accounts now submitted be received, adopted, and entered in the company's cost and transfer-book.

That the thanks of the shareholders be presented to the chairman and directors for their judicious management of this company's affairs, and for their comprehensive and lucid report.

That the thanks of this meeting be presented to Capt. Floyd for his careful and satisfactory report of this company's property.

TINCROFT MINING COMPANY.—At the Annual General Meeting of the shareholders in this company, held at the offices, 44, Finsbury-square, on the 10th inst., the following resolutions were passed unanimously:—

That the reports and accounts now submitted be received, adopted, and entered in the company's minute-book. 45

That the best thanks of this meeting be presented to the chairman and directors for their zealous, able, and successful management of this company's property, and for their constant and anxious attention to the shareholders interests.

Resolved,—That the shareholders of this company are desirous of expressing, by the present resolution, their satisfaction with Capt. Floyd and the subordinate agents of the company in the working of the mine.

In 1 vol., Royal 8vo., price 10s. 6d., cloth,

A TREATISE ON LANDED PROPERTY—IN ITS GEOLOGICAL, AGRICULTURAL, CHEMICAL, MECHANICAL, AND POLITICAL RELATIONS. 46

By JAMES BOYDELL, Land and Machinery Valuer, and Agent.

Effingham Wilson, publisher, Royal Exchange.

Just published, price 2s., or by post for 2s. 6d.,

THE SCIENCE OF LIFE: or How to Live and What to Live For; with ample Rules for Diet, Regimen, and Self-Management—together with Instructions for securing perfect Health, Longevity, and that sterling state of happiness only attainable through the judicious observance of a well-regulated course of life. 47

By A PHYSICIAN.

London: Kent and Richards, Paternoster-row, and all booksellers.

THE MINING ALMANAC will be published on the 18th of APRIL inst., at the *Mining Journal* Office, 26, Fleet-street. 48

ALBION PLATE GLASS COMPANY.
INCORPORATED PURSUANT TO ACT OF PARLIAMENT.

Capital £50,000, in 2000 shares, of £25 each, with power to increase to £150,000.
Deposit £2 2s. 6d. per share.

TRUSTEES.

MATTHEW FORSTER, Esq., M.P., New City Chambers.
Captain CHARLES EDWARD MANGLES, Guildford.
GEORGE FREDERICK YOUNG, Esq., Limehouse.

DIRECTORS.

FREDERICK YOUNG, Esq., Bromley, Middlesex, Chairman.
EDWARD SMITH, Esq., Old Broad-street.
WILLIAM MACDONALD, Esq., Savage Gardens.
JOHN HOPPE, Esq., Bishopsgate-street-without.
JOHN ROBERTS, Esq., Crosby-square.
JOHN MORRIS, Esq., East India-road. 49

AUDITORS.

Samuel Sharp, Esq., Albury, near Guildford; Joseph Causton, Esq., Eastcheap.

BANKERS.

London Joint-Stock Bank.

SOLICITORS.

Messrs. Shearman and Slater, 23, Great Tower-street.

MANAGER.

Mr. Henry Howard, Plaistow, Essex.

Applications to be made to the directors, at the company's offices.
Offices, 4, Railway-place, Fenchurch-street, City. H. SHEARMAN, Secretary.

FORM OF APPLICATION FOR SHARES.

To the Directors of the "Albion Plate Glass Company."

Incorporated pursuant to Act of Parliament.—Deposit £2 2s. per share.

GENTLEMEN,—I request you will allot me shares, of £25 each, in the above company, and I hereby undertake to accept the same, or such less number as you may allot me, and to pay the deposit and sign the Deed of Settlement when required.

Name .....
Address .....
Date .....
Reference .....

KENT AND SUSSEX

INDURATED AND IMPERVIOUS STONE COMPANY.

Capital—£20,000, in 2000 shares, of £10 each.
[Provisionally Registered.] 50

N.B.—ORDERS EXECUTED FOR PAVING, &c.

Apply for prospectuses, &c., to Mr. William Hutchison, Calverley Quarry, Tunbridge Wells; or to Messrs. Hutchison, Wilford, and Co., East Temple Chambers, 2, Whitefriars-treet, Fleet-street, London.

NEUBER'S SCENTED LIQUID GLUE, being perfectly transparent, is admirably ADAPTED for LADIES' FANCY WORK, &c. In bottles, at 1s. each. 51

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NEUBER'S WASHABLE WATER VARNISH, for PAPER HANGING, &c., is without smell, and requires no preparation of size.—Best full bodied, 12s. per gallon; flat, 8s.; and in bottles at 1s. and 1s. 6d.

NEUBER'S IMPROVED SUPERIOR WHITE PAPER VARNISH, for MAPS, PLANS, &c.—14s. per gallon, and in botton 1s. each.

NEUBER'S TRANSPARENT FRENCH POLISH, 23s. p. gal., and in bottles 1s. each.

Naptha Polish, 14s. per gallon; Best Dark Oak Varnish, 10s.; Pale, 12s. per gallon.

Best French ditto, 21s. per ditto; Best Dark Carriage ditto, 13s.; Pale, 14s. per ditto.

Wholesale at the Patentees, NEUBER & WATKINS,
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Samples forwarded on receipt of 18 postage stamps.

Wholesale Agents—Low and Son, perfumers, 330, Strand; Hopwood and Parke, Fish-street-hill, London; P. Walker and Co., Jamaica-street, Glasgow, and 1, Duke-street, Leith; Robinson, Palmer, and Palmer, operative chemists, Colmore-row, Birmingham; W. Sims, Bath; F. Myers, Preston.

N.B.—Respectable local agents are required for the provinces.

FOR EVERY HOUSE IN THE KINGDOM.

HARPER TWELVETREES' GENUINE CONCENTRATED WASHING PREPARATION, for accomplishing a week's wash in 1½ hour, and is warranted not to injure the finest fabric.—Sold by all chemists and oilmen, in bottles, at 6d., 1s., and 1s. 6d. The 1s. 6d. bottles contain sufficient for 48 gallons of water, which will boil three lots of clothes, being equal to 144 gallons.

All the leading journals in the kingdom have spoken favourably of this invaluable process, now adopted in most of the infirmaries, asylums, public institutions, and families throughout the kingdom.

MANUFACTURED only by TWELVETREES, BROTHERS, Ink and Blacking Manufacturers, Millman-street, Bedford-row, London, wholesale and for exportation. 52

Two thousand more agents wanted.

Sold wholesale by Barclay and Sons, Sutton, Edwards, Hansey, &c.

No Chemical or Potash preparations are introduced, which are notoriously injurious to linen.—MANUFACTORY—MILLMAN-STREET, BEDFORD-ROW, LONDON.

THE SCIENCE OF WASHING.—"A New Mode of Washing," says the *Maidstone Gazette* of January 30, 1849, "which has been advertised by Mr. Twelvetrees, bookseller, has been submitted to us for trial. We have ascertained by careful experiment that the plan pursued is really a great saving. Several persons who have purchased the pamphlet have been so well satisfied with it, that they have called at our office to suggest that we might do great good, and save much unnecessary labour, by strongly recommending its adoption by our readers generally, in our scientific column. We do this most conscientiously."—The above method is so economical and expeditious, that a FAMILY'S SIX WEEKS' WASH CAN be ACCOMPLISHED BEFORE BREAKFAST, for less than 6d., without a washerwoman. 53

Directions to be had only of Harper Twelvetrees, bookseller, 14, New Millman-street, Foundling, London, for 31 stamps and a directed envelope, and of all booksellers.

KEATING'S COUGH LOZENGES—Under PATRONAGE OF ROYALTY AND THE AUTHORITY OF THE FACULTY.

COUGHS, ASTHMATIC AND CONSUMPTIVE COMPLAINTS, SHORTNESS OF BREATH, HOARSENESS, &c., EFFECTUALLY and SPEEDILY CURED by their use.

They have deservedly obtained the high patronage of their Majesties the King of Prussia and the King of Hanover—very many also of the Nobility and Clergy, and of the public generally, use them, under the recommendation of some of the most eminent of the faculty. Such medical testimony must be convincing of their efficacy.

Being made from the prescription of an eminent physician, they are confidently recommended to persons subject to the above complaints.

Allow the Lozenges to dissolve in the mouth gradually. 54

Prepared and sold, in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by THOMAS KEATING, Chemist, &c., No. 79, ST. PAUL'S CHURCHYARD, LONDON.

COUGH CURED AFTER AN ATTACK OF INFLUENZA.

St. Ives, Hants, January 13, 1848.

SIR,—Having been attacked by the influenza, a short time ago, it left me with a very troublesome cough—was recommended to try your Lozenges, which, I am happy to say, completely cured me, after only taking half a box of them. I shall always feel the greatest pleasure and confidence in recommending your Lozenges to my friends.

I am, Sir, your most obedient servant,

Thomas Keating, Esq. THOS. E. DAVIS.

DAMP AND GASEOUS EXHALATIONS.
SANATARY MEASURES.

All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:— 55

"In 1839, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and interwal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1806 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, 8 or ten £2 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, 56

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

BIRMINGHAM—PATENT AND REGISTRATION AGENCY.

MESSRS. ROBERTSON & CO., of 166, Fleet-street, London (of which long-established firm Mr. J. C. Robertson, the Editor of the *Mechanics' Magazine* from its commencement, is the principal partner), beg to announce that they have, for the convenience of their numerous friends and clients in the Midland Counties, and of all persons in these counties who may be desirous of obtaining by Patents or Certificates of Registration, Protection for New Inventions and Improvements, OPENED a BRANCH OFFICE, at 99 B, NEW-STREET, BIRMINGHAM, where Instructions to intending Patentees and Registrees may be had *gratis*, and every necessary step may be immediately taken for obtaining Patents (British or Foreign) or Certificates of Registration.

The "MECHANICS' MAGAZINE" will be also regularly supplied at the above Branch Office, either in weekly numbers every Saturday, price 3d., or stamped, price 4d., or in monthly parts, or in half-yearly volumes. 57

"The *Mechanics' Magazine*, most ably edited by Mr. Robertson, has from its establishment had an extensive circulation, and it communicates, for 3d. a week, far more valuable information, both scientific and practical, than was ever before placed within the reach of even those who could afford to pay six times as much for it."—*Lord Brougham.*

"The *Mechanics' Magazine* has conferred lasting advantages on the manufactures of the country."—*Report of the Select Committee of the House of Commons on the Arts of Design.*

EMERSON'S PATENT LIQUID CEMENT is ready for use, is simple in its application, and only ONE-EIGHTH the COST of OIL PAINT; for beauty it is pre-eminent over all other materials used on the fronts of houses—giving the exact appearance of FINE CUT STONE; can be used at once on fresh Roman cement or other plastering; is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be beautified in any weather, at a trifling cost. Sold in casks, of 1, 2, and 3 cwts., at 8s., 15s., and 21s. each. 58

PATENT MINERAL PAINT.

Invaluable as a COATING for SHIPS' SIDES and BOTTOMS, all kinds of WOOD or METAL WORK, roofing felts, leaky roofs, spouts and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay—requires no preparation, and will dry in a few hours.—Sold in casks, 2 to 50 gallons. Brilliant black, 2s.; rich brown, 2s. 9d. per gall.

BELL, LEAR, & CO., 16, Basing-lane, Cheapside.

PATENT ALKALI COMPANY'S METALLIC PAINTS.
COLOURS—BLACK AND PURPLE BROWN.

These paints (the products of a patent process), possess peculiar and valuable properties not otherwise attainable, and are perfectly free from the deleterious qualities of white-lead. They surpass all other paints ever yet discovered in point of DURABILITY and ECONOMY; two coats being more than equal to three of any other description. From their chemical composition, they are pre-eminently adapted for covering IRON; also STUCCOED or BRICK BUILDINGS, and every kind of WOOD WORK. The process by which the base of these paints is produced, makes it impossible that any change should take place in their composition from atmospheric influence. Their identity with iron secures them from galvanic action, so fatal to the durability of lead and other paints on iron work. 59

They have been exposed on SHIPPING to the action of sea water, and of the sulphurretted hydrogen so prevalent in sea ports and tidal harbours, for more than THREE YEARS, without change.

Their CHEAPNESS and STRENGTH render them peculiarly eligible for IRON BRIDGES, ROOFS, and RAILINGS, FARM BUILDINGS, and SHIPPING.

The attention of the SHIPPING INTEREST is particularly directed to the company's patent compound metallic BLACK PAINT (the only metallic black paint of any value in existence), which will be found to act as a most valuable preservative when applied to iron steam-boats, and wooden vessels. It also forms a beautiful covering for STOVES, and is susceptible of a high polish.

Several imitations of the Patent Alkali Company's paint having been sold under the name of IRON PAINT, the directors of the company deem it necessary to caution the public that no other iron paint is genuine, or partakes in any degree whatever of the properties of the company's paints, the base of the latter being obtained solely by a series of processes, which are protected by the company's patents, and to which alone is owing their extraordinary body, or covering power. Numerous and most satisfactory testimonials have been forwarded to the company's offices, copies of which may be had of the secretary or of the agents.

Price, by the ton, £25, delivered in London or Liverpool, exclusive of packages.

To be obtained exclusively on application to the secretary, Mr. J. A. West, at the offices of the company, 20, Fenchurch-street, London; or of any of the undermentioned parties, who are the only agents of the company:—

Messrs. Evans Brothers, London; Messrs. Matthews and Leonard, Bristol; Messrs. Evans and Hodgson, Exeter; Messrs. Clarke and Fill, Yarmouth, Norfolk; Mr. D. Sandeman, Glasgow; Mr. G. Sandeman, Dundee; Mr. R. Newby, Bradford, Yorkshire, Mr. R. S. Farr, Edinburgh; Mr. W. Bailey, Wolverhampton; Messrs. Vigo and Co; Newcastle-on-Tyne, and Sunderland; Mr. Robert Oxland, Plymouth; Mr. Joshua Fox, Tregedna, near Falmouth.

PATENT RAILWAY AND OTHER CARRIAGE AXLES,
MANUFACTURED BY THE

PATENT SHAFT AND AXLE-TREE COMPANY,
BRUNSWICK IRON WORKS, WEDNESBURY, STAFFORDSHIRE.

The Judicial Committee of the Privy Council having declared that the AXLES 60
MADE BY THE PATENT SHAFT AND AXLE-TREE COMPANY

had proved a PUBLIC BENEFIT in greatly conducing to the SAFETY of RAILWAY TRAVELLING, the exclusive right to manufacture has been extended for four years, on condition that the practice of charging a moderate price, proved hitherto to have been pursued, should be made imperative.

It was also proved that these Axles were in general use—upwards of 100,000 having been supplied to the English and Continental Railways, among whom are the London and North-Western, the Midland, and the Great Western; that they had withstood frequently severe tests applied by the engineers of these railways for the purpose of experiment, and others still more severe to which they were accidentally subjected in use. In one such instance a Patent Axle, 4½ inches in diameter, sustained the whole force of a heavy train going at the rate of 60 miles an hour, by which it was twisted and bent nearly double, without showing the least fracture.

The patent principle of manufacture causes the axles to be equally strong in all directions, for the "faggot" is made in a cylindrical form, by the external bars being rolled of such a section as to fit accurately around a centre bar. This faggot, however large, is perfectly welded throughout its whole length at one heat, avoiding the necessity of the frequent heating and hammering of the ordinary mode, by which much risk is run of imperfectly welding, burning, and otherwise injuring the iron.

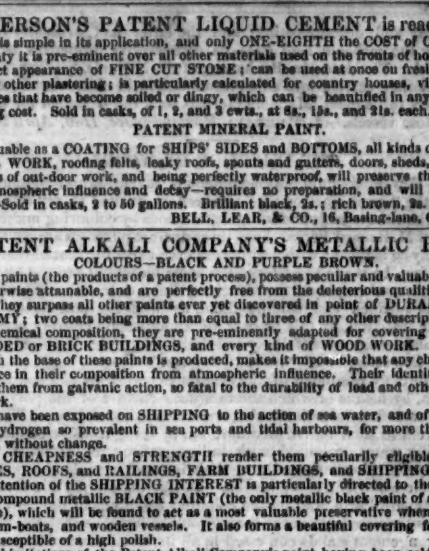
The use of this principle, combined with experience gained of the quality and admixture of the iron and mode of treatment best adapted to resist the strain to which an axle is subjected, enables the Patent Shaft Company uniformly to supply safe axles.

In all cases where the use of the Patent Shaft Company's Axles are specified for, it is respectfully recommended that information be sent to the works; for, although every Patent Axle is stamped with the company's name, worthless axles, made at an expense little beyond that of common bar-iron, have, in many instances, been substituted.

It was given in evidence before the Privy Council, by Robert Stephenson, Esq., M.P., that having, in consequence of an accident, tested a number of such common axles, he found 46 out of 50 broke so easily as to be perfectly unfit for use: that he ordered them all to be removed, and that he has since recommended the Patent Axles to be used exclusively.

The trial of the Patent Shaft Company's Iron is solicited in cases where the power to resist a great strain is of importance. Evidence can be afforded from several railway engineers, of great economy having resulted from its use, in preventing the breakage to which their coupling chains were frequently previously subjected, particularly on the Midland Railway, where the heavy mineral traffic subjects these chains to unusual strains.

Iron manufactured on the patent principle is also recommended for coach and carriage axles, for, if not afterwards injured by the coachsmith, all risk of breakage will be avoided.



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WRIGHTON'S PATENT ELASTIC SCREW COUPLING.

The PROPRIETORS of this simple and useful INVENTION invite the attention of Railway Companies to the ADVANTAGES and ECONOMY to be derived from its general adoption. The severe tests to which it has been subjected on the Eastern Union Railway fully demonstrate that its application to trucks or goods waggons, with *dead draw hooks and solid buffers*, produces as perfect and beneficial a result *as a complete set of spring traction and buffing apparatus*, and at about one-fourth the cost of the cheapest that can be supplied. Its application to passenger carriages will be found equally beneficial in giving additional ease and elasticity to a train, and preventing the injurious shocks at starting and stopping so much complained of. For further particulars apply to Mr. Parsons, Albert-place, Lewisham; or at the Patent Office, 166, Fleet-street.

IMPORTANT TO MINE OWNERS, &c.

GUTTA PERCHA COMPANY—PATENTEES,
CITY-ROAD, LONDON.

The GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, *without any seam or raised joint.* They are unaffected by acids, alkalies, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required. 62

GUTTA PERCHA TUBING

Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines.*

GUTTA PERCHA DRIVING BANDS

Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalis, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

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MORE CURES OF ASTHMA AND COUGH BY DR. LOCOCK'S PULMONIC WAFERS.—Extract of a letter from Mr. W. Tomlinson, bookseller, Stodman-street, Newark:—"July 4, 1848. Gentlemen: I can fully prove the value of Locock's Wafers, as a near relative of mine was speedily cured of a most severe asthmatic cough of long duration by them, and many other cures equally astonishing constantly come under my notice, so that I can confidently recommend them, which I do with very great pleasure. (Signed) W. TOMLINSON."—Dr. Locock's Wafers give instant relief, and a rapid sure of asthma, coughs, and all disorders of the breath and lungs. To singers and public speakers they are invaluable for strengthening and clearing the voice: they have a most pleasant taste.—Price 1s. 1½d., 2s. 9d., and 11s. per box.

Agents.—Da Silva and Co., 1, Bride-lane, Fleet-street, London; and sold by all medicine vendors. 63

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